

Service Manual

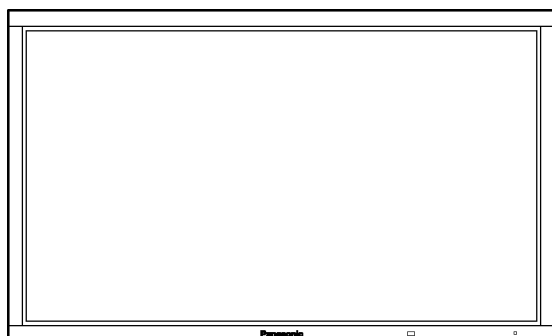
High Definition Plasma Display

Model No. **TH-103PF10WK**

Model No. **TH-103PF10TK**

Model No. **TH-103PF10RK**

GPF10D Chassis



WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 Safety Precautions

1.1. General Guidelines

1. When conducting repairs and servicing, do not attempt to modify the equipment, its parts or its materials.
2. When wiring units (with cables, flexible cables or lead wires) are supplied as repair parts and only one wire or some of the wires have been broken or disconnected, do not attempt to repair or re-wire the units. Replace the entire wiring unit instead.
3. When conducting repairs and servicing, do not twist the Faston connectors but plug them straight in or unplug them straight out.
4. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
5. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
6. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.1.1. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1Mohm and 5.2Mohm.
When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

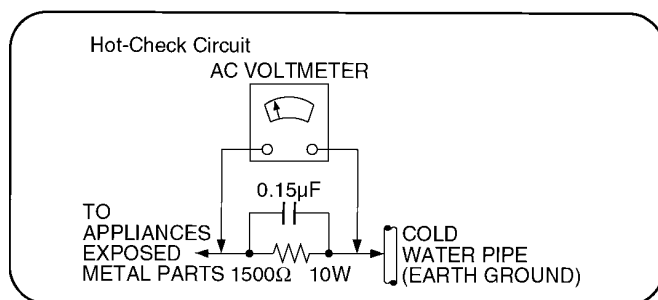


Figure 1

1.1.2. Leakage Current Hot Check (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kohm, 10 watts resistor, in parallel with a 0.15μF capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

2 Warning

2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise ham less motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2.2. About lead free solder (PbF)

Note: Lead is listed as (Pb) in the periodic table of elements.

In the information below, Pb will refer to Lead solder, and PbF will refer to Lead Free Solder.

The Lead Free Solder used in our manufacturing process and discussed below is (Sn+Ag+Cu).

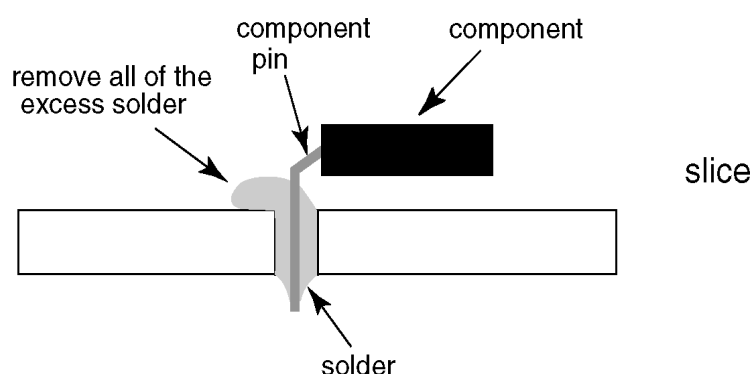
That is Tin (Sn), Silver (Ag) and Copper (Cu) although other types are available.

This model uses Pb Free solder in it's manufacture due to environmental conservation issues. For service and repair work, we'd suggest the use of Pb free solder as well, although Pb solder may be used.

PCBs manufactured using lead free solder will have the PbF within a leaf Symbol **PbF** stamped on the back of PCB.

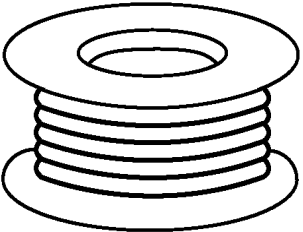
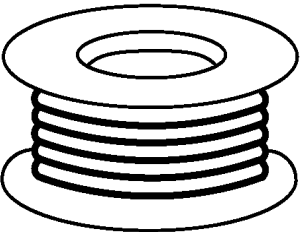
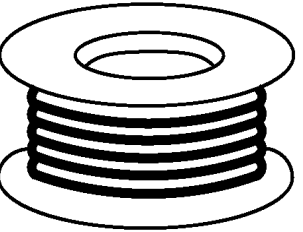
Caution

- Pb free solder has a higher melting point than standard solder. Typically the melting point is 50 ~ 70 °F (30~40 °C) higher. Please use a high temperature soldering iron and set it to 700 ± 20 °F (370 ± 10 °C).
- Pb free solder will tend to splash when heated too high (about 1100 °F or 600 °C).
If you must use Pb solder, please completely remove all of the Pb free solder on the pins or solder area before applying Pb solder. If this is not practical, be sure to heat the Pb free solder until it melts, before applying Pb solder.
- After applying PbF solder to double layered boards, please check the component side for excess solder which may flow onto the opposite side. (see figure below)



Suggested Pb free solder

There are several kinds of Pb free solder available for purchase. This product uses Sn+Ag+Cu (tin, silver, copper) solder. However, Sn+Cu (tin, copper), Sn+Zn+Bi (tin, zinc, bismuth) solder can also be used.

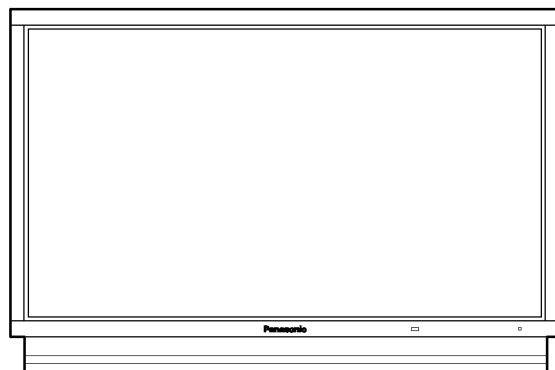
0.3mm X 100g	0.6mm X 100g	1.0mm X 100g
		

3 Service Navigation

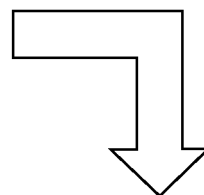
3.1. Service Hint

[How to set the plasma unit for servicing]

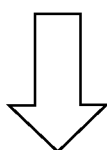
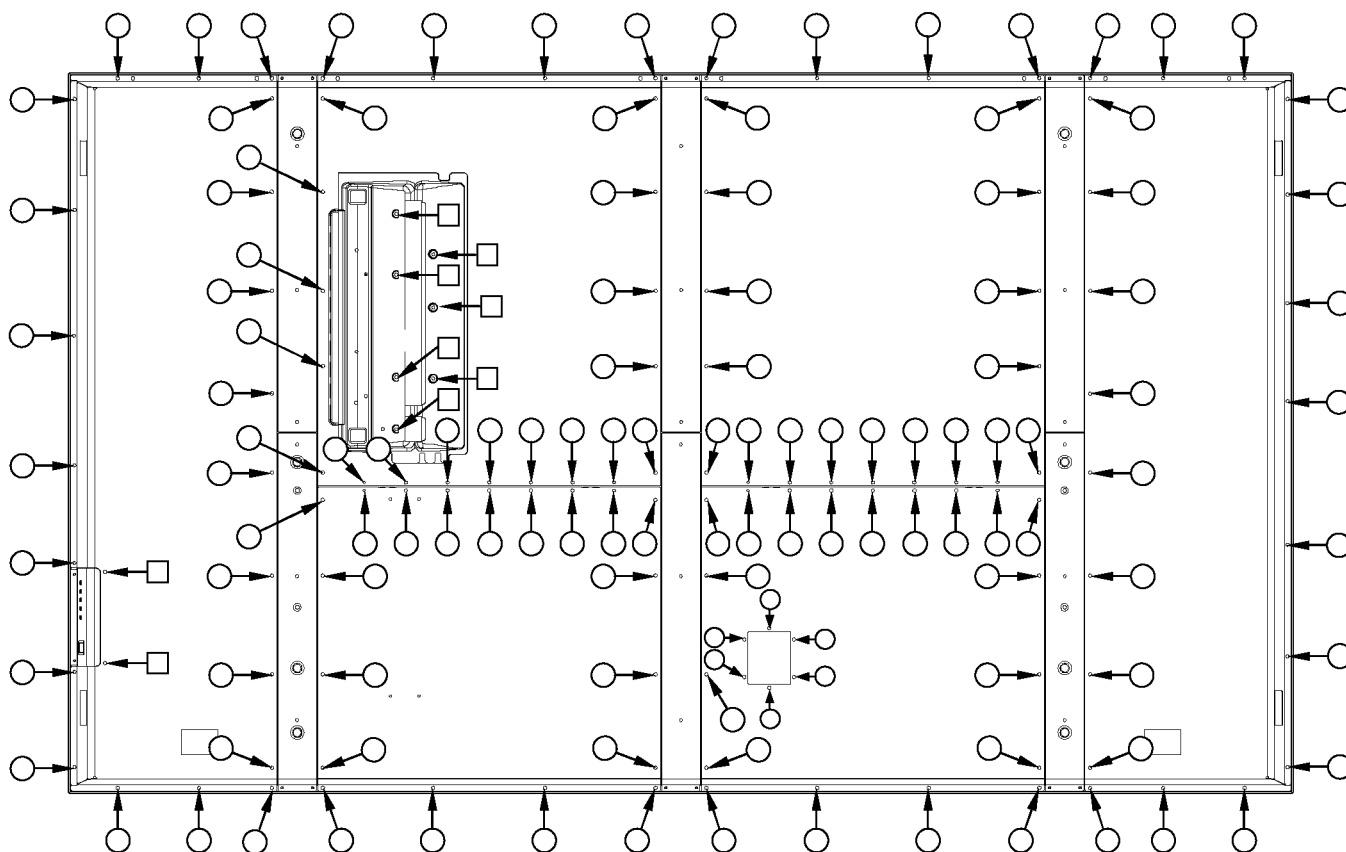
Place the plasma unit on the pedestal stand.
(Optional Accesory)



Pedestal Stand

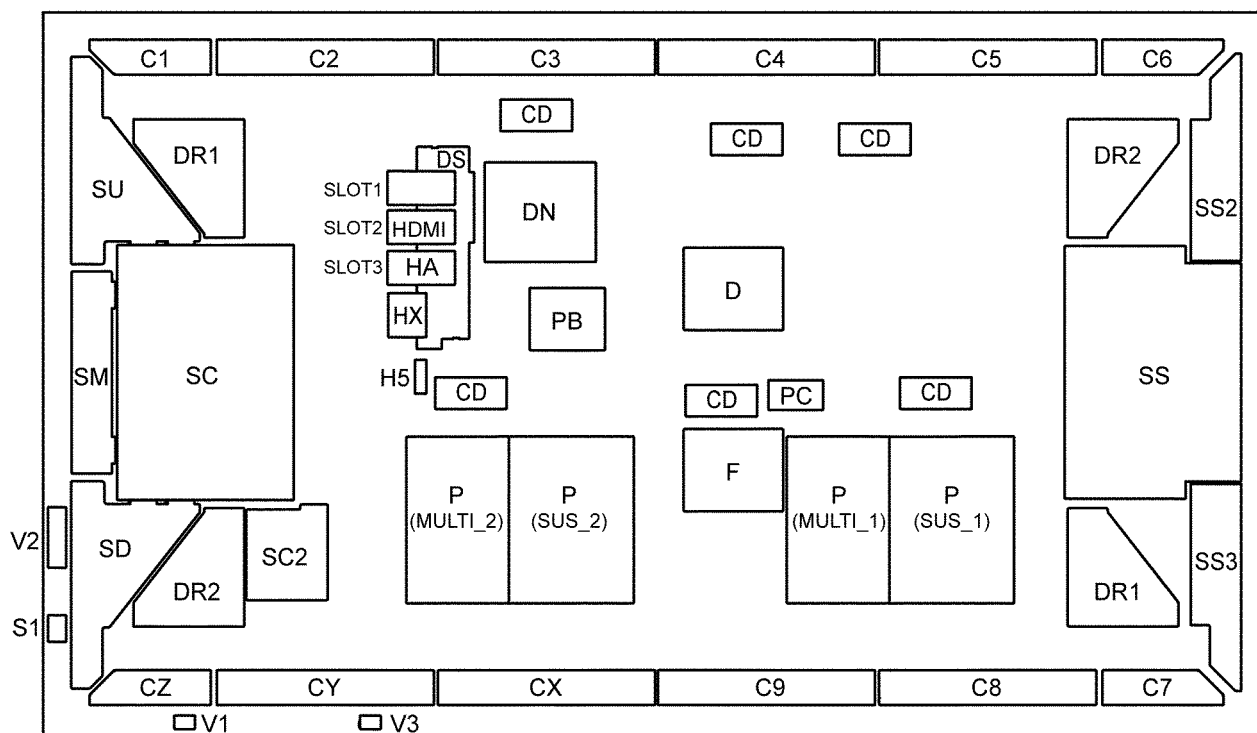


Remove the Rear Cover.



Remove : 128 screws (○) XYN4+F10FJK
9 screws (□) THEL0429

See next page



Board Name	Function	Board Name	Function
D	Digital Signal Processor, Format Converter, Plasma AI Processor Sub-Field Processor	CX	Data Drive (X)
DS	Slot Interface (Audio / Video / Sync Input Switch), SYNC Processor, Audio Processor, Speaker Out Amplifier, DC-DC Converter	CY	Data Drive (Y)
SS	Sustain Drive	CZ	Data Drive (Z)
SC	Scan Drive	H5	Audio Out
SC2	DC-DC Converter For Scan Drive	S1	Power Switch
SU	Scan Out (Upper)	SS2	Sustain Out (Upper)
SM	Scan Out (Middle)	SS3	Sustain Out (Lower)
SD	Scan Out (Lower)	V1	LED_G, R
C1	Data Drive (1)	V2	Key Scan
C2	Data Drive (2)	V3	Remocon Receiver
C3	Data Drive (3)	PB	Fan Control
C4	Data Drive (4)	P(SUS_1/2)	Power Supply
C5	Data Drive (5)	P(MULTI_1/2)	Power Supply
C6	Data Drive (6)	F	Line Filter
C7	Data Drive (7)	PC	Power Control
C8	Data Drive (8)	HX	PC / RS-232C
C9	Data Drive (9)	HA	BNC Component Video
		DN	Digital Signal Processor, Microcomputer
		HDMI	Dual HDMI
		CD	C-Board / D-Board Connection
		DR1	Energy Data Recovery
		DR2	Energy Data Recovery

Note:

Extension cable kit for Slot Board is supplied as service fixtures and tools.
(Part No. TZSC07040)

3.2. Applicable signals

Applicable input signals for Component / RGB, Mini D-sub 15P (* Mark)

	Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)	Component / RGB / Mini D-sub 15P (Dot clock (MHz))
1	525 (480) / 60i	15.73	59.94	* (13.5)
2	525 (480) / 60p	31.47	59.94	* (27.0) *4
3	625 (575) / 50i	15.63	50.00	* (13.5)
4	625 (575) / 50p	31.25	50.00	* (27.0)
5	625 (576) / 50p	31.25	50.00	
6	750 (720) / 60p	45.00	60.00	* (74.25)
7	750 (720) / 50p	37.50	50.00	* (74.25)
8	1,125 (1,080) / 60p	67.50	60.00	* (148.5) *1
9	1,125 (1,080) / 60i	33.75	60.00	* (74.25) *1
10	1,125 (1,080) / 50p	56.26	50.00	* (148.5) *1
11	1,125 (1,080) / 50i	28.13	50.00	* (74.25) *1
12	1,125 (1,080) / 24sF	27.00	47.92	* (74.25) *1
13	1,125 (1,080) / 30p	33.75	30.00	* (74.25) *1
14	1,125 (1,080) / 25p	28.13	25.00	* (74.25) *1
15	1,125 (1,080) / 24p	27.00	24.00	* (74.25) *1
16	1,250 (1,080) / 50i	31.25	50.00	* (74.25) *2
17	640 × 400 @70 Hz	31.46	70.07	* (25.17)
18	640 × 480 @60 Hz	31.47	59.94	* (25.18) *5
19	640 × 480 @72 Hz	37.86	72.81	* (31.5)
20	640 × 480 @75 Hz	37.50	75.00	* (31.5)
21	640 × 480 @85 Hz	43.27	85.01	* (36.0)
22	800 × 600 @56 Hz	35.16	56.25	* (36.0)
23	800 × 600 @60 Hz	37.88	60.32	* (40.0)
24	800 × 600 @72 Hz	48.08	72.19	* (50.0)
25	800 × 600 @75 Hz	46.88	75.00	* (49.5)
26	800 × 600 @85 Hz	53.67	85.06	* (56.25)
27	852 × 480 @60 Hz	31.47	59.94	* (33.54) *5
28	1,024 × 768 @50 Hz	39.55	50.00	
29	1,024 × 768 @60 Hz	48.36	60.00	* (65.0)
30	1,024 × 768 @70 Hz	56.48	70.07	* (75.0)
31	1,024 × 768 @75 Hz	60.02	75.03	* (78.75)
32	1,024 × 768 @85 Hz	68.68	85.00	* (94.5)
33	1,066 × 600 @60 Hz	37.64	59.94	* (53.0)
34	1,152 × 864 @60 Hz	53.70	60.00	
35	1,152 × 864 @75 Hz	67.50	75.00	* (108.0)
36	1,280 × 960 @60 Hz	60.00	60.00	* (108.0)
37	1,280 × 960 @85 Hz	85.94	85.00	* (148.5)
38	1,280 × 1,024 @60 Hz	63.98	60.02	* (108.0)
39	1,280 × 1,024 @75 Hz	79.98	75.03	* (135.0)
40	1,280 × 1,024 @85 Hz	91.15	85.02	* (157.5)
41	1,366 × 768 @50 Hz	39.55	50.00	
42	1,366 × 768 @60 Hz	48.36	60.00	* (86.71)
43	1,400 × 1,050 @60 Hz	65.22	60.00	
44	1,600 × 1,200 @60 Hz	75.00	60.00	* (162.0)
45	1,600 × 1,200 @65 Hz	81.25	65.00	* (175.5)
46	1,920 × 1,080 @60 Hz	67.50	60.00	* (148.5) *3
47	1,920 × 1,200 @60 Hz	74.04	59.95	
48	Macintosh13" (640 × 480)	35.00	66.67	* (30.24)
49	Macintosh16" (832 × 624)	49.72	74.54	* (57.28)
50	Macintosh21" (1,152 × 870)	68.68	75.06	* (100.0)

1: Based on SMPTE274M standard.

2: Based on SMPTE295M standard.

3: The input signal is recognized as 1,125 (1,080) / 60p.

4: When selected the RGB format and 525p signal input to the Mini D-sub 15P terminal, it is recognized as VGA 60Hz signal.

5: When inputted VGA 60Hz format signal from the other than Mini D-sub 15P terminal, it is recognized as 525p signal.

Note: Signals without above specification may not be displayed properly.

VIDEO input (HDMI)

	Signal format	Vertical frequency (Hz)	Horizontal frequency (kHz)	Dot clock (MHz)	Number of active pixels	Total number of pixels	Number of active lines	Total number of lines
1	VGA60	59.94	31.47	25.18	640	800	480	525
2	525/60p	59.94	31.47	27.00	720	858	480	525
3	625/50p	50.00	31.25	27.00	720	864	576	625
4	750/60p	60.00	45.00	74.25	1280	1650	720	750
5	750/50p	50.00	37.50	74.25	1280	1980	720	750
6	1125/60i	60.00	33.75	74.25	1920	2200	1080	1125
7	1125/50i	50.00	28.13	74.25	1920	2640	1080	1125
8	1125/60p*	60.00	67.50	148.50	1920	2200	1080	1125
9	1125/50p*	50.00	56.26	148.50	1920	2640	1080	1125
10	1125/24p*	24.00	27.00	74.25	1920	2750	1080	1125

*Not compatible with HDMI Terminal Board (TY-FB8HM).

Audio signal Linear PCM : 48/44.1/32 kHz

4 Specifications

Power Source (WK/RK)	220 V - 240V AC, 50 / 60Hz
Power Source (TK)	220 V - 240 V AC, 50 / 60Hz (single phase)
Power Consumption	
Power on	1,500 W
Stand-by condition	Save OFF 1.0 W, Save ON 0.9 W
Power off condition	0.5 W
Plasma Display panel	Drive method: AC type 103-inch, 16:9 aspect ratio
Screen size	2,269 mm (W) × 1,277 mm (H) × 2,604 mm (diagonal)
(No. of pixels)	2,073,600 (1,920 (W) × 1,080 (H)) [5,760 × 1,080 dots]
Operating condition	
Temperature	0 °C - 40 °C
Humidity	20 % - 80 %
Applicable signals	
Scanning format	525 (480) / 60i * 60p, 625 (575) / 50i * 50p, 750 (720) / 60p * 50p, 1125 (1080) /
PC signals	60i * 60p * 50i * 50p * 24p * 25p * 30p * 24sF, 1250 (1080) / 50i VGA, SVGA, XGA, SXGA, UXGA (compressed) Horizontal scanning frequency 15 - 110 kHz Vertical scanning frequency 48 - 120 Hz
Connection terminals	
HDMI A-B	TYPE A Connector x 2
COMPONENT / RGB IN	Y / G (BNC) P _B / B (BNC), P _R / R (BNC) AUDIO IN (RCA PIN JACK × 2) (HIGH-DENSITY Mini D-SUB 15PIN)
PC IN	with sync 1.0 Vp-p (75-ohm) 0.7 Vp-p (75-ohm) 0.5 Vrms (high impedance) Y or G with sync 1.0 Vp-p (75-ohm) Y or G without sync 0.7 Vp-p (75-ohm) B / P _B / C _B : 0.7 Vp-p (75-ohm) R / P _R / C _R : 0.7 Vp-p (75-ohm) HD / VD: 1.0 - 5.0 Vp-p (high impedance) 0.5 Vrms (high impedance) RS-232C COMPATIBLE
SERIAL	AUDIO IN (M3 JACK)
AUDIO OUT	EXTERNAL CONTROL TERMINAL (D-SUB 9PIN) RCA PIN JACK × 2 (L / R)
	OUTPUT LEVEL : VARIABLE (-∞ - 0 dB)
Accessories Supplied	
Remote Control Transmitter	EUR7636070R
Batteries	R6 Size x 2
Fixing bands	TMME203 × 2
Dimensions (W × H × D)	2,414 mm × 1,421 mm × 129 mm (141 mm when including protruding portion of slots)
Mass (weight)	approx. 220.0 kg net

Notes:

- Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.
- This equipment complies with standards. AS/NZS60065, CISPRE22 Class-B (TH-103PF10WK)

5 Service Mode

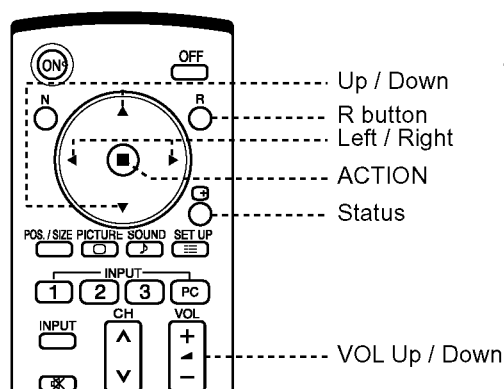
5.1. CAT (Computer Aided Test) mode

CAT mode menu

CAT panel sys. 8. 2		
IIC Mode	IIC	Service Alignment
CD Mode	CD (Complete Diagnostics)	Software version information EEPROM edit
SD Mode	SD (Status Display)	MTBF parameter
MS Mode	MS Mode	Market Select
ID Mode	ID Mode	LSI Check

Mode	Function	Access button
IIC	Service Alignment	Action
CD (Complete Diagnostics)	Software version information EEPROM edit	Mute more than 3 seconds
SD (Status Display)	MTBF parameter	Action
MS Mode	Market Select	Mute more than 3 seconds
ID Mode	LSI Check	Mute more than 3 seconds

Remote control



How to access the CAT mode.

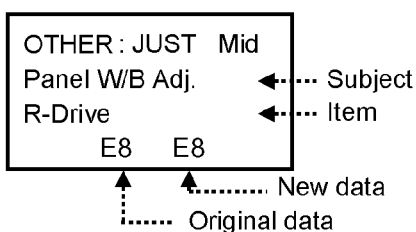
Press and the hold the **Volume down / - button** on the Side of the unit and press the **status button** on the remote control 3 times quickly within 2 seconds, this will place the unit into the CAT mode.

To exit the **CAT mode**, access the **ID mode** and switch off the main power.

5.1.1. IIC mode

Select the IIC mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Action button** on the remote control.

OSD



How to use the IIC mode.

1. Select the alignment **Subject** by **Up/Down buttons** on the remote control.
2. Select the alignment **Item** by **Left/Right buttons** on the remote control.
3. Adjust **optimum setting** by **Volume Up/Down buttons** on the remote control.
4. The **data is memorized** when press the **R button** on the remote control or change the alignment Subject (or Items).

Subject and item are mentioned on "IIC mode structure".

To exit the IIC mode, press the **R button** on the remote control.

5.1.2. CD mode

Select the CD mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Mute button** on the remote control more than 3 seconds.

CD		
MONITOR-MCU	1. 0100F10	OK
MONITOR-EEPROM DN	71. 01 1	3C 7C
MONITOR-EEPROM H	7. 00	ED 4B
MONITOR-FPGA 1/2	10	5
MONITOR-EEPROM Change Addr	00	01
Data	01	01
PANEL-MCU	7 00	
PANEL-EEPROM	97 03	
PANEL-FPGA	97 02	
PANEL-PDROM	98 00	
PTCT	00. 00. 00. 00. 00.	

----- Factory use

----- New data

----- SOS history

----- Original data

Microcomputer software version (IC4002), this version can be upgrade by

- 1. replace of new version IC
- 2. Loading the new version software from loader tool, TZSC07036.

Memory data change

Address

0

0

Change by **Up / Down buttons** on the remote control.

Change by **Left / Right buttons** on the remote control.

Data

0

0

Change by **VOL Up / Down buttons** on the remote control.

The data is memorized when switch off the main power.

To exit the CD mode, press the **R button** on the remote control.

5.1.3. SD mode

Select the SD mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Action button** on the remote control.

OSD

SD

Input command check

40 40 40 40 40 40 41

38 FF 25 27 30 18 28

30 20 30 17 28 17

MTBF Parameter

WT

28

PT

4

Condition

+29

Remote Control Mode

A

B

----- History of remote control command. (Factory use).

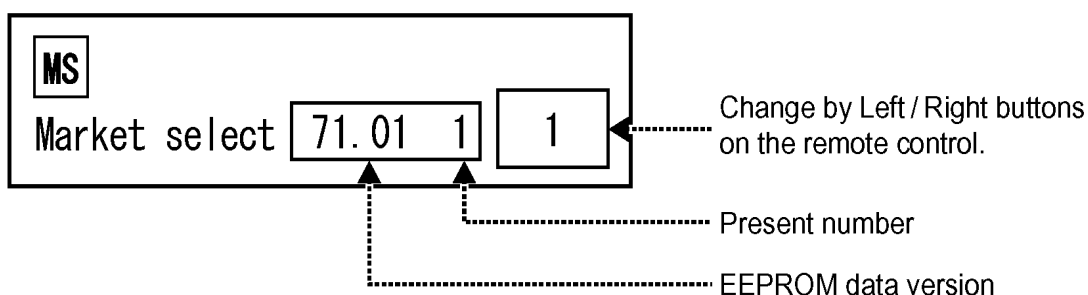
----- Cumulative Time for power on condition. (unit :hour)

----- Counter of power on. (unit :time)

To exit the SD mode, press the **R button** on the remote control.

5.1.4. MS mode

Select the MS mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Mute button** on the remote control more than 3 seconds.



To exit the MS mode, press the **R button** on the remote control.

Caution:

Market Select should be set after exchange of DN-Board.

Destination number

Number	Destination	Number	Destination
0	Japan	16	--
1	North America	17	--
2	Europe	18	China
3	Others	19	China (Hotel)
4	Britain	20	Russia
5	Taiwan	21	Russia (Hotel)
6	Thailand	22	Hong Kong
7	--	23	--
8	Japan (Hotel)	24	--
9	North America (Hotel)	25	--
10	Europe (Hotel)	26	--
11	--	27	--
12	Britain (Hotel)	28	Middle East/Hong Kong
13	--	29	Middle East/Hong Kong (Hotel)
14	Thailand (Hotel)	30	Australia
15	--	31	Australia (Hotel)

Default setting

Number	Destination
1	North America

5.1.5. ID mode

Select the ID mode by **Up / Down button** on the remote control at the front page of CAT mode and then press the **Mute button** on the remote control more than 3 seconds.

ID

IIC1IIC2IIC3IIC4SI

DN

IC4003OK H90

IC4606OK H61

IC5101OK H56

IC5603OK H57

IC4609OK H31

IC5103OK H32

IC5102OK H33

IC5301OK H51

DS

IC8181OK H51

IC3001OK H22

IC3003OK H63

IC3004OK H64

IC3005OK H65

IC2303OK H21

D

PANELOK

MONITOR-MCU

1.0100F10

OK

MONITOR-EEPROM DN

71.00 1

3C 7C

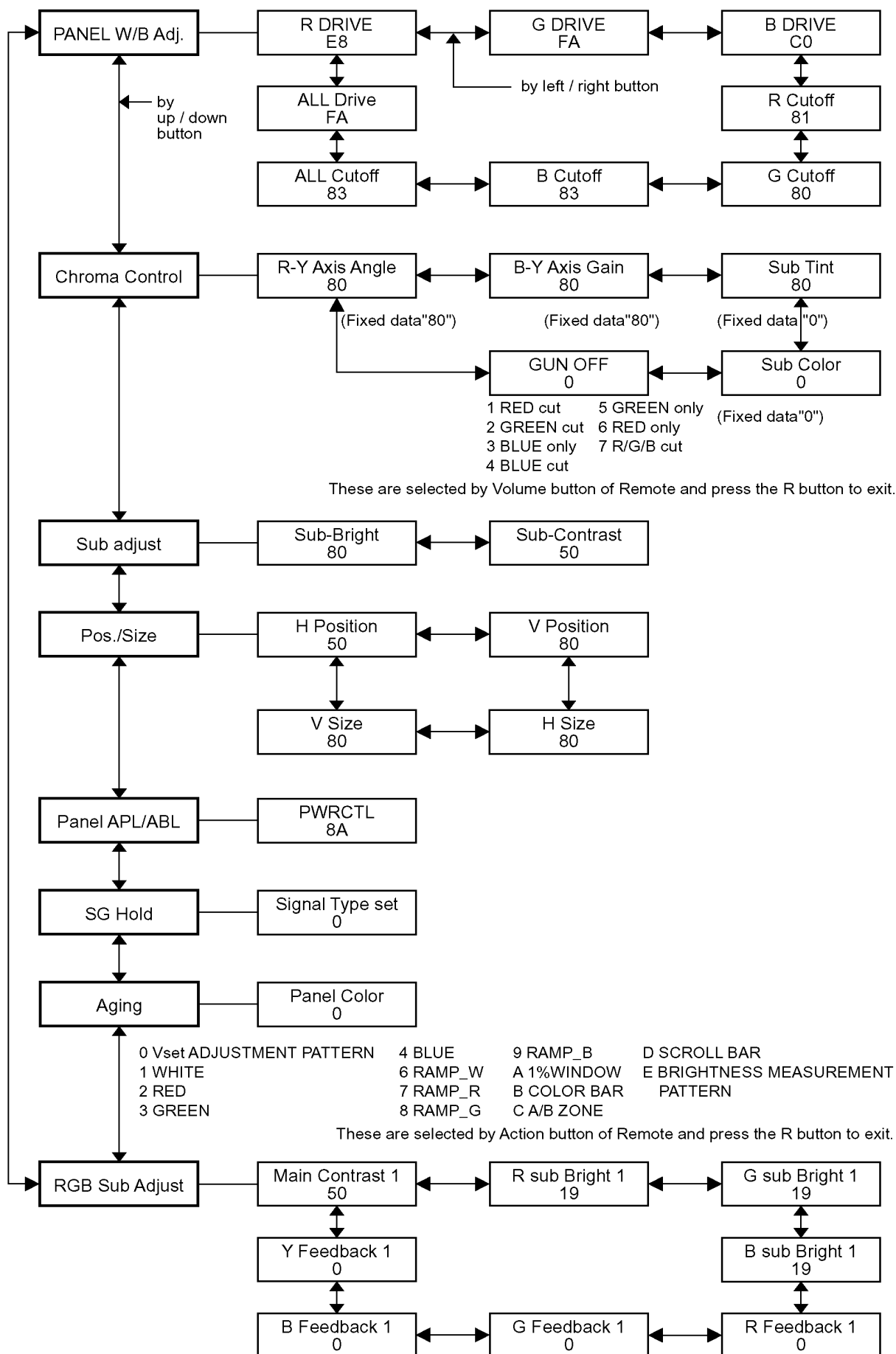
PANEL-MCU/EEPROM

7.00

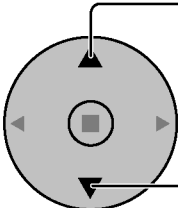
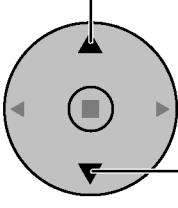
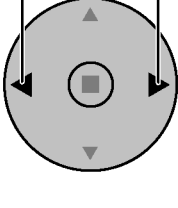
97.03

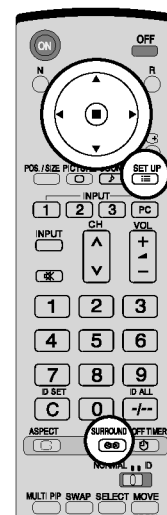
To exit the ID mode, press the **R button** on the remote control.

5.2. IIC mode structure (following items value is sample data)



5.3. Option Setting

- 1  Press to display the Setup menu.
- 2  Press to select "OSD Language".
- 3  Press and hold until the Options menu is displayed.
- 4  Press to select your preferred menu.
- 5  Press to adjust the menu.
- 6  Press to exit from Options menu.



Options		1/3
Weekly Command Timer		
Onscreen display	On	▶
Initial INPUT	Off	▶
Initial VOL level	Off	0
Maximum VOL level	Off	0
INPUT lock	Off	
Button lock	Off	
Remocon User level	Off	
Advanced PIP	Off	

Option Menu for GPF10D series

GPH10D chassis series have special function and operation setting facility called Option Menu. This Option Menu is useful for special function required customers. This should be set at the installation stage.

Option menus	default setting	Contents
Weekly Command Timer	---	Off-timer Sets Weekly Command Timer. Enable/Disable.
Onscreen display	On	Enable/Disable to display input mode indication after power on and no signal indication.
Initial INPUT	Off	Sets the initial input mode when the power is turned on. Allow input mode selection while power is on.
Initial VOL level	Off	Sets the initial volume level when the power is turned on. Allow Volume control while power is on.
Maximum VOL Level	Off	Sets the maximum volume to desired level. Volume cannot exceed this level.
INPUT lock	Off	Fixes the input mode to AV, Component/RGB or PC. Can not change input mode by input selection key
Button lock	Off	Enable/Disable bottom operation buttons (Input, Menu, Enter and/or volume up/down)
Remocon User Level	Off	Remote key invalidation. Off: Valid key is all key of remote. User1: Valid key are only Stand-by (ON/OFF), Input, Direct input, Status, Surround, Sound mute On/Off, and volume adjustment. User2: Valid key is only Stand-by (ON/OFF). User3: All keys are null and void
Advanced PIP	Off	Off: Sets normal two screen display mode. On: Sets Advanced PIP mode.
Off-timer function	Enable	Off-timer operation Enable/Disable.
Initial Power Mode	Normal	Sets the power mode of the unit for when the power recovers from failure or after plugging off and in again.
ID select	0	Set ID number from 0 to 100.
Remote ID	Off	Remote ID function On/Off. (While the Remote ID on, standard remote function can not control the unit.)
Serial ID	Off	Serial ID function On/Off
Display size	Off	Adjusts the image display size on screen. On: Sets the image display size approximately 95% of the normal image display.
Studio W/B	Off	Set warm mode color temperature to 3,200 Kelvin.
Studio Gain	Off	Sharpens the contrast for a better view when a part of the image is too light to see
Slot power	Off	Sets the slot power mode while the power is turned on. Allow Optional Terminal Board insert Slots while power is on.
Power On Screen Delay	Off	You can set the power-on delay time of the displays to reduce the power load, when you press  to turn on the multiple displays that are set together, for example, on MULTI DISPLAY system. Set each display's setting individually.
V. Installation	Off	V. Installation function On/Off (Not used)
Rotate	Off	The image rotates 180 degrees (up-down)
Serial Slot Select	Slot1	Selects the slot which communicates serial. Note: The setting of an external command can be set only from the fixed serial terminal.

Note:

When both main unit buttons and remote control are disabled due to the "Button lock", "Remocon User level" or "Remote ID" adjustments, set all the values "Off" so that all the buttons are enabled again.

Press the "Volume down" button on main unit together with "R" button on the remote control and hold for more than 5 seconds.

The "SHIPPING" menu is displayed and the lock is released when it disappears.

6 Troubleshooting Guide

6.1. Self Check

6.1.1. Display Indication

1. Self-check is used to automatically check the bus line controlled circuit of the Plasma display.
2. To get into the Self-check mode, press the **volume down** button on the customer controls at the side of the set, at the same time pressing the **OFF-TIMER** button on the remote control, and the screen will show.

If the IIC ports have been checked and found to be incorrect.

Or not located then " - - " will appear in place of " OK ".

“ 01 “ in the line of the “ PTCT ” means the number of blinks of the Power LED is 1. (Refer to 7.1.2)

“ H09 “ in the line of the “ PTCT ” is the error code.

To exit Self Check mode, switch off the main power.

Note:

The line of the “ PTCT ” displays when you get into the Self-check mode for the first time only after the Power LED blinks.

ID

IIC1

IIC2

IIC3

IIC4

SI

DN

IC4003

OK

H90

DS

IC8181

OK

H51

IC4606

OK

H61

IC3001

OK

H22

IC5101

OK

H56

IC3003

OK

H63

IC5603

OK

H57

IC3004

OK

H64

IC4609

OK

H31

IC3005

OK

H65

IC5103

OK

H32

IC2303

OK

H21

IC5102

OK

H33

IC5301

OK

H51

D

PANEL

OK

PTCT

01

H09

INCHMXXXPXXX

MONITOR-MCU

1.0100F10

OK

MONITOR-EEPROM DN

71.00

1

3C 7C

PANEL-MCU/EEPROM

7.00

97.03

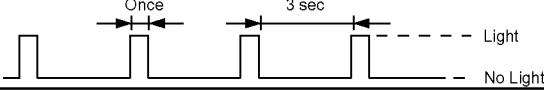
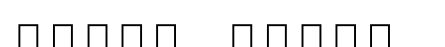
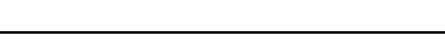
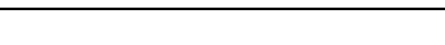
6.1.2. Power LED Blinking timing chart

1. Subject

Information of LED Blinking timing chart.

2. Contents

When an abnormality has occurred to the unit, the protection circuit operates and resets to the stand by mode. At this time, the defective block can be identified by the number of blinks of the Power LED on the front panel of the unit.

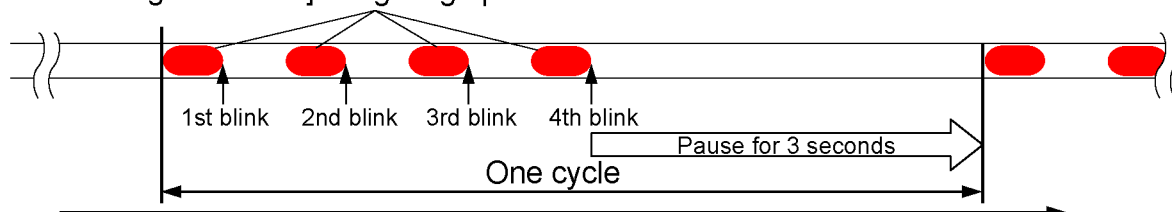
Blinking times	Blinking timing	Contents & Check point	Check point
1		No particular check point	—
2		15V SOS	P-Board (SS side)
3		3.3V SOS	D-Board DN-Board
4		POWER SOS	P-Board
5		5V SOS	P-Board (SS-side) D-Board DN-Board DS-Board
6		Driver SOS1(SCAN)	SC-Board SC2-Board SU-Board SM-Board SD-Board
7		Driver SOS2(DATA)	DR1-Board DR2-Board C1-Board C2-Board C3-Board C4-Board C5-Board C6-Board C7-Board C8-Board C9-Board CX-Board CY-Board CZ-Board PC-Board
8		Driver SOS3(SUS)	SS-Board SS2-Board SS3-Board
9		Panel Config SOS	D-Board
10		Terminal Board SOS	P-Board DS-Board
11		FAN SOS	PB-Board FAN
12		DN Config SOS	DN-Board
13		3.3V / 2.5V / 1.8V	DN-Board

3. Remarks

Above Fan function is operated during the fans are installed.

About blinking LED

[When blinking four times] Lighting up

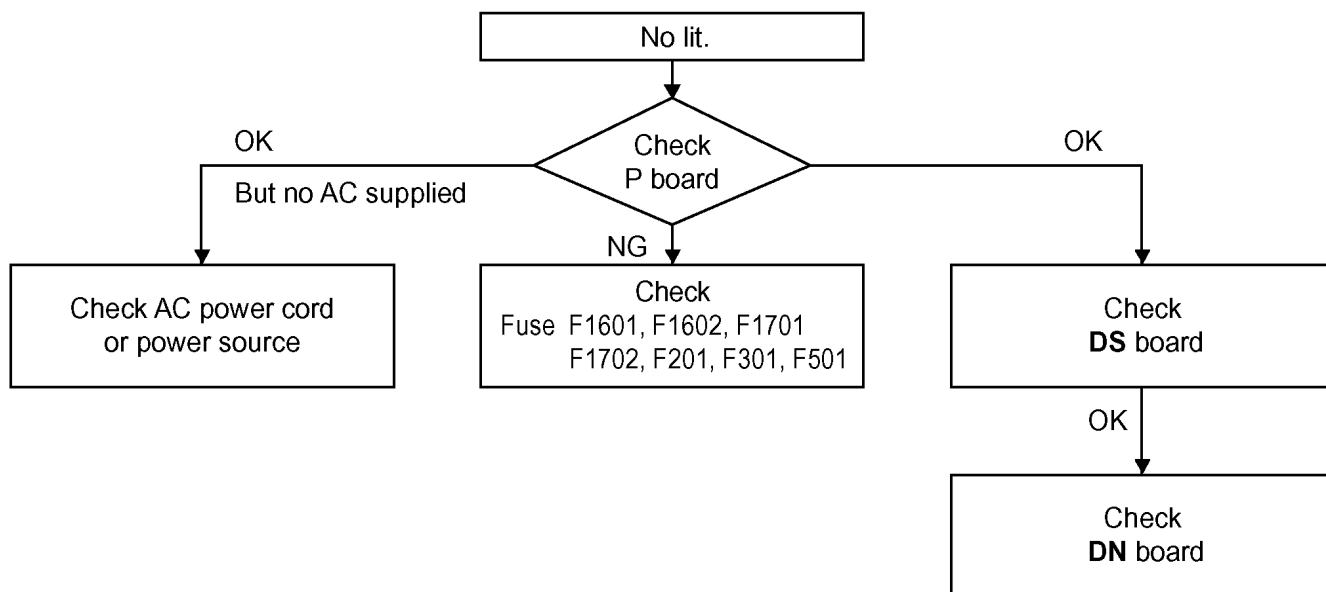


6.2. No Power

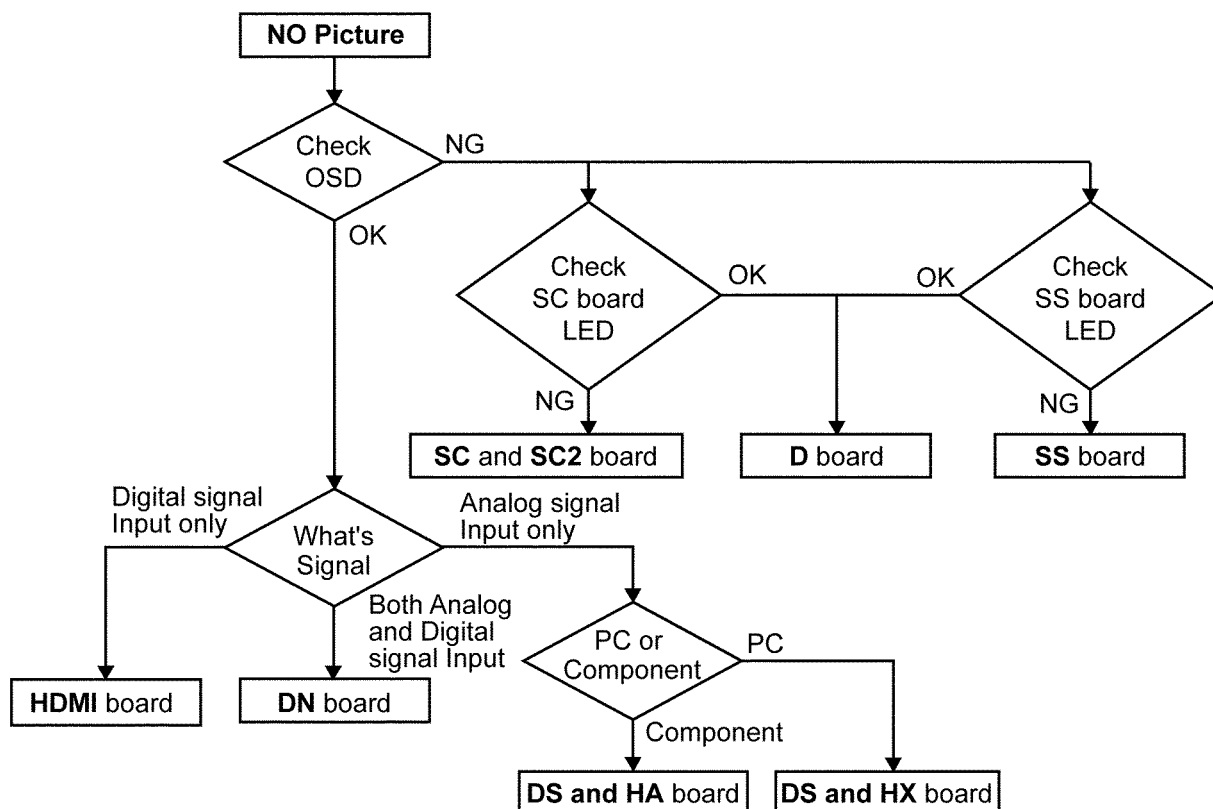
First check point

There are following 3 states of No Power indication by power LED.

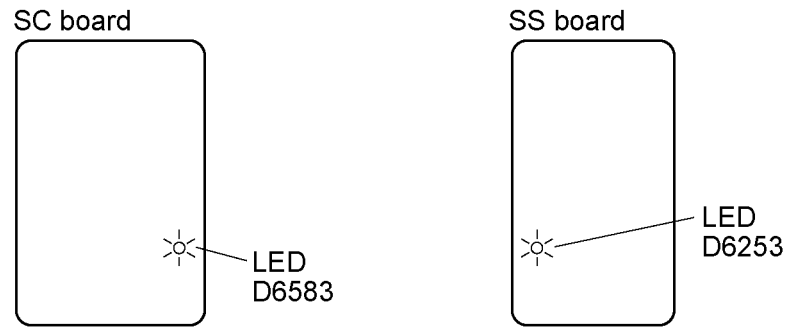
1. No lit.
2. Green is lit then turns red blinking a few seconds later.
3. Only red is lit.



6.3. No Picture



Drive circuits LED indicator



6.4. Local screen failure

Plasma display may have local area failure on the screen. Fig - 1 is the possible defect P.C.B. for each local area.

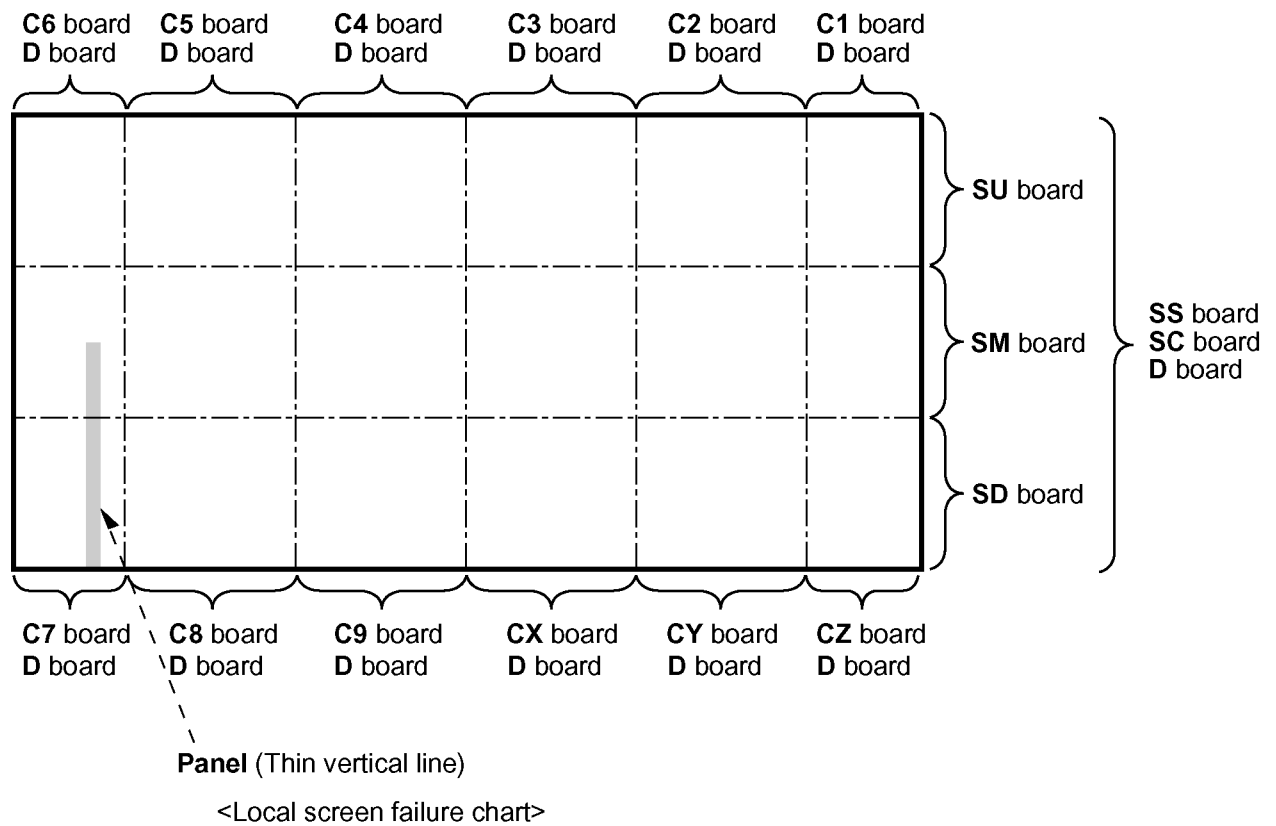
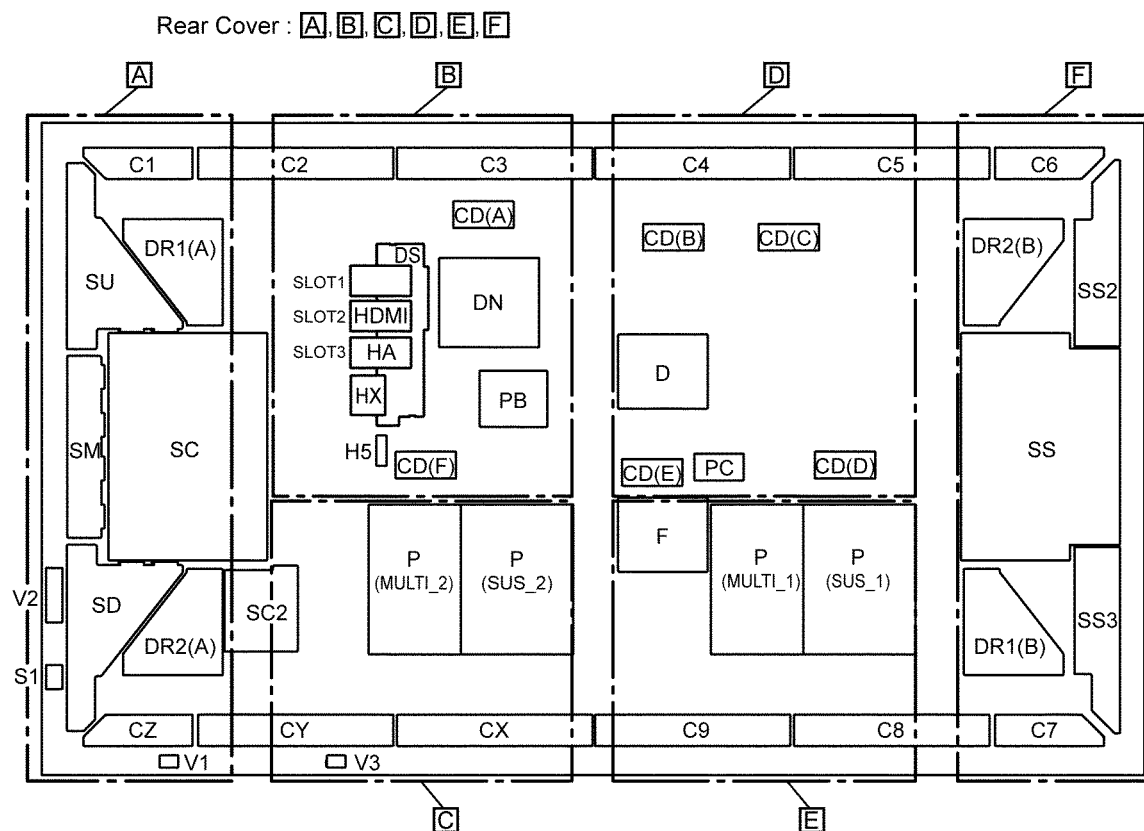


Fig - 1

7 Disassembly and Assembly Instructions

- To disassemble P.C.B., wait for 1 minute after power was off for discharge from electrolysis capacitors.
- ⬆ and ⬇ marks indicate screw positions.

7.1. Rear Cover and Board

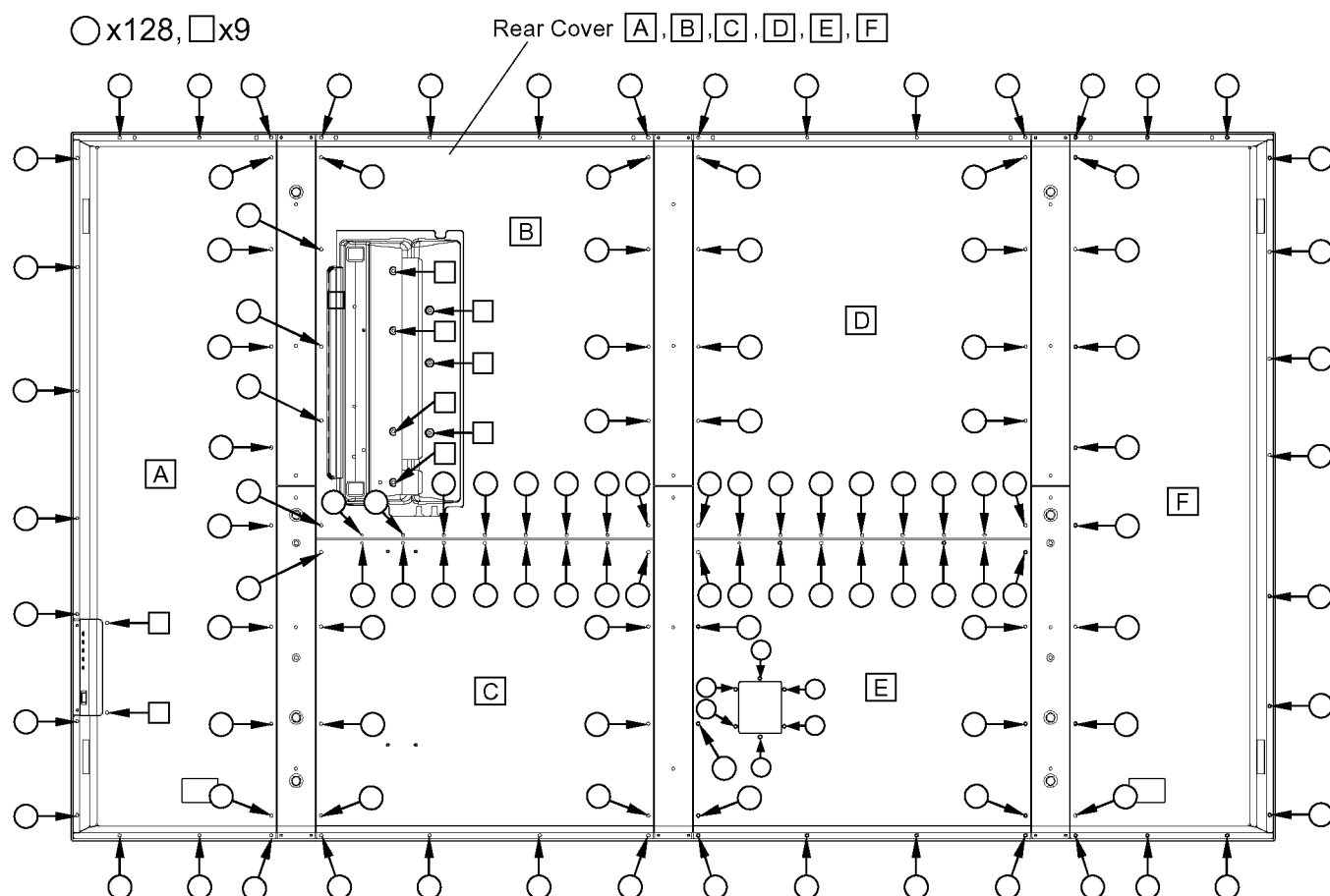


Rear Cover required to remove for each board exchange.

Board Name	Rear Cover
D-Board	<u>D</u>
DS-Board	<u>B</u>
SS-Board	<u>E</u>
SC-Board	<u>A</u> , <u>B</u> , <u>C</u>
SC2-Board	<u>A</u> , <u>C</u>
SU-Board	<u>A</u>
SM-Board	<u>A</u>
SD-Board	<u>A</u>
C1-Board	<u>A</u>
C2-Board	<u>A</u> , <u>B</u>
C3-Board	<u>B</u> , <u>D</u>
C4-Board	<u>B</u> , <u>D</u>
C5-Board	<u>D</u> , <u>E</u>
C6-Board	<u>E</u>
C7-Board	<u>E</u>
C8-Board	<u>E</u> , <u>E</u>
C9-Board	<u>C</u> , <u>E</u>
CX-Board	<u>C</u> , <u>E</u>
CY-Board	<u>A</u> , <u>C</u>
CZ-Board	<u>A</u>
H5-Board	<u>B</u>
S1-Board	<u>A</u>
SS2-Board	<u>E</u>
SS3-Board	<u>E</u>
V1-Board	<u>A</u> , <u>B</u> , <u>C</u> , <u>D</u> , <u>E</u> , <u>E</u>
V2-Board	<u>A</u>
V3-Board	<u>A</u> , <u>B</u> , <u>C</u> , <u>D</u> , <u>E</u> , <u>E</u>

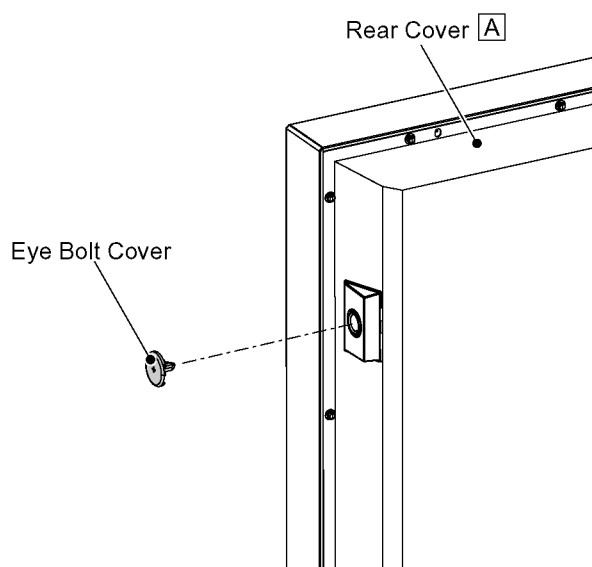
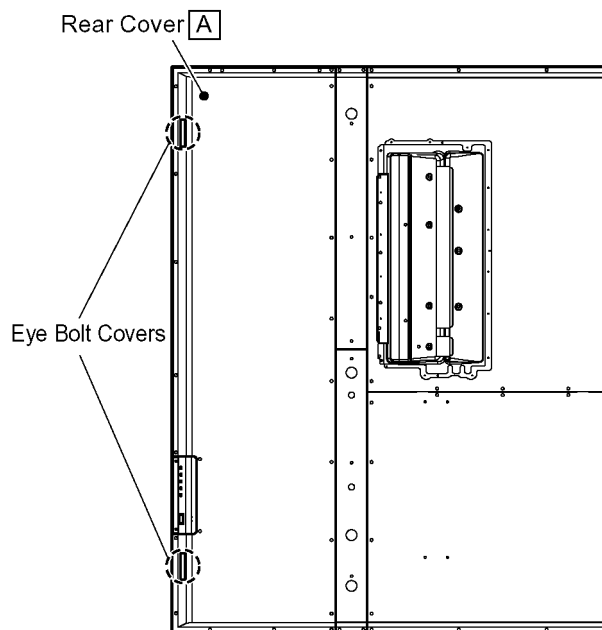
Board Name	Rear Cover
PB-Board	B
P-Board (MULTI_1)	F
P-Board (SUS_1)	F
P-Board (MULTI_2)	C
P-Board (SUS_2)	C
F-Board	F
PC-Board	D
HX-Board	B
HA-Board	B
DN-Board	B
HDMI-Board	B
CD-Board (A)	B
CD-Board (B)	D
CD-Board (C)	D
CD-Board (D)	D
CD-Board (E)	D
CD-Board (F)	B
DR1-Board (A)	A
DR1-Board (B)	F
DR2-Board (A)	A
DR2-Board (B)	F

7.2. Location of Rear Cover screws

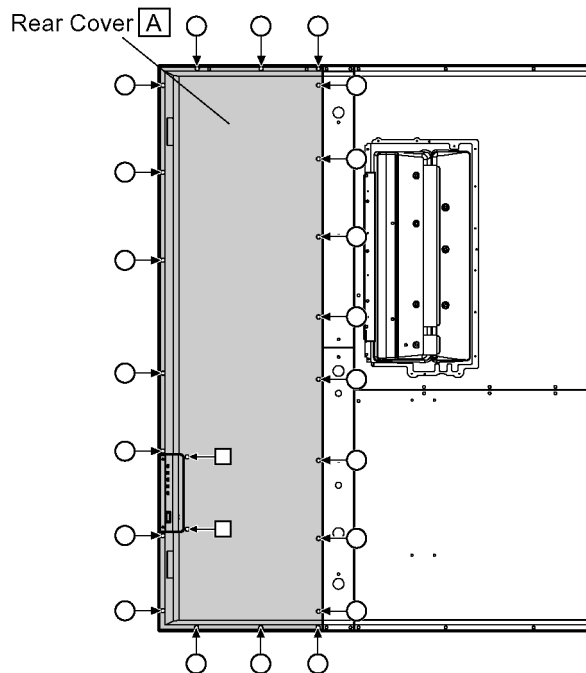


7.2.1. Removal of Rear Cover (A)

1. Remove Eye Bolt Covers.



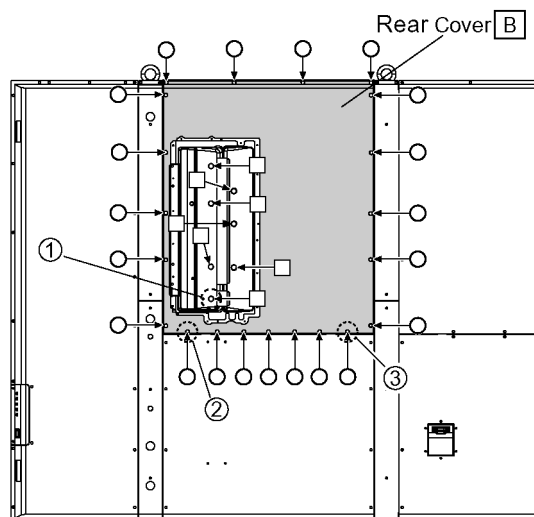
2. Remove screws (×21 , ×2 ) and then remove the Rear Cover (A).



7.2.2. Removal of Rear Cover (B)

1. Remove screws (×21 , ×7 ) and then remove the Rear Cover (B).

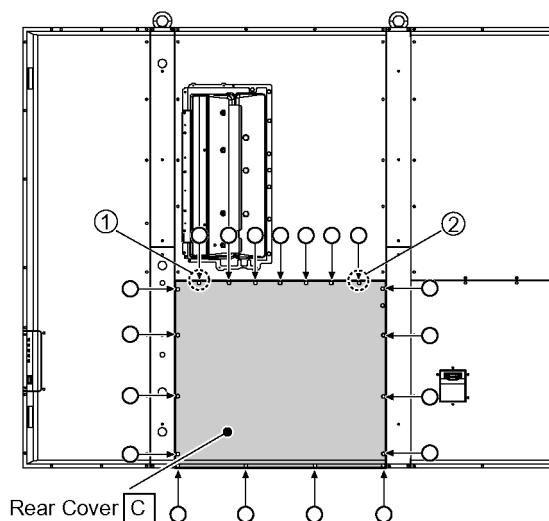
Tighten screw first in order of ①, ② and ③ when mounting the Rear cover B.



7.2.3. Removal of Rear Cover ($\bar{C}$)

1. Remove screws (×19 $\bigcirc$) and then remove the Rear Cover ($\bar{C}$).

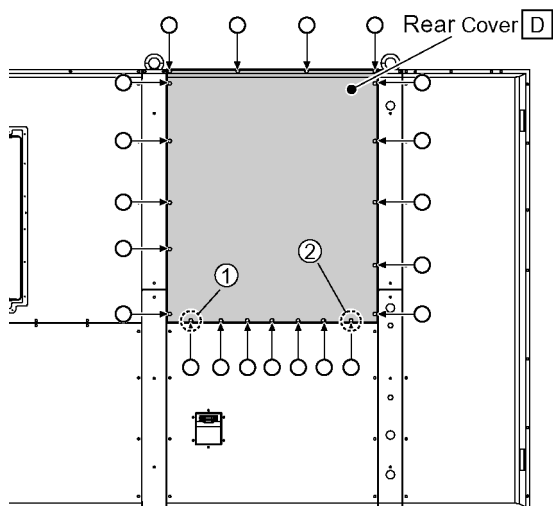
Tighten the screw first in order of ① and ② when mounting the Rear Cover $\bar{C}$.



7.2.4. Removal of Rear Cover ($\bar{D}$)

1. Remove screws (×21 $\bigcirc$) and then remove the Rear Cover ($\bar{D}$).

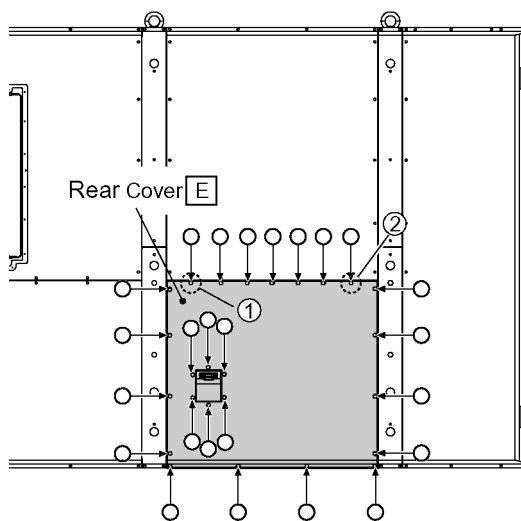
Tighten screw first in order of ① and ② when mounting the Rear cover $\bar{D}$.



7.2.5. Removal of Rear Cover ($\bar{E}$)

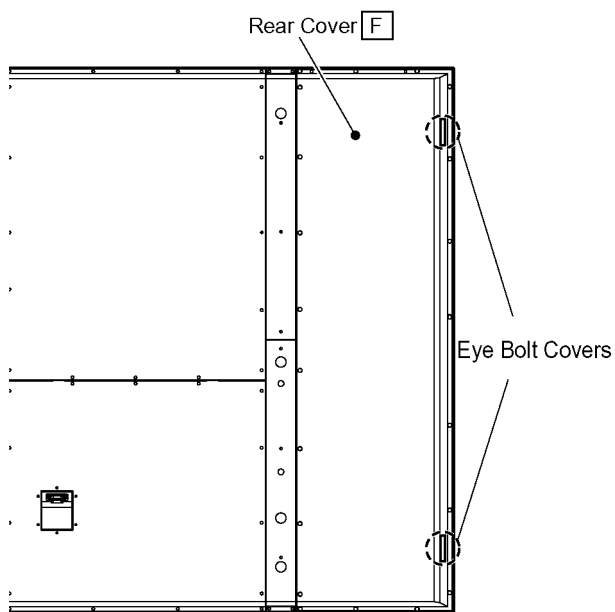
1. Remove screws (×25 $\bigcirc$) and then remove the Rear Cover ($\bar{E}$).

Tighten screw first in order of ① and ② when mounting the Rear cover $\bar{E}$.



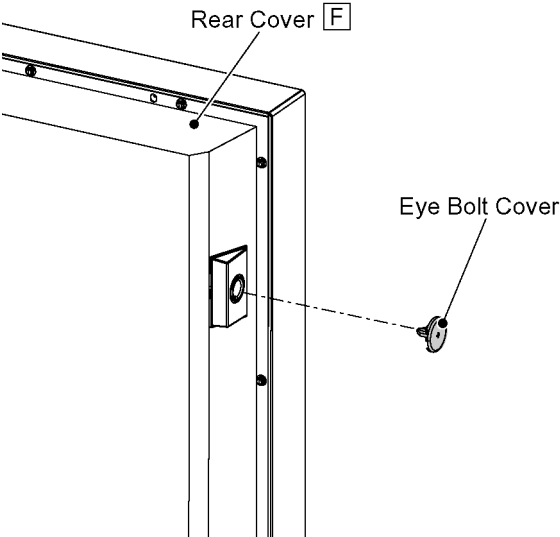
7.2.6. Removal of Rear Cover ($\bar{F}$)

1. Remove Eye Bolt Covers.

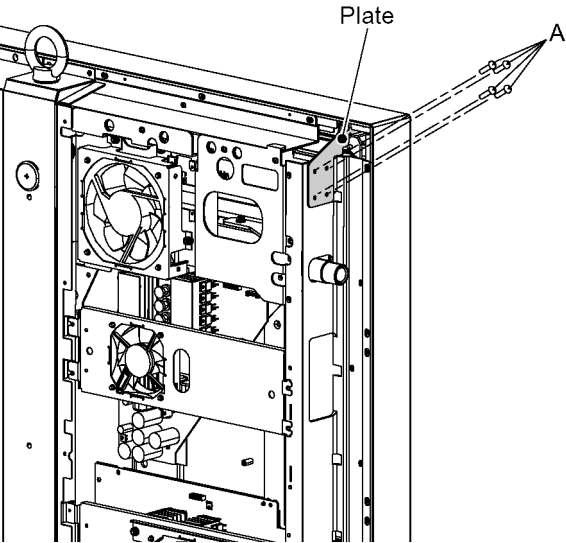
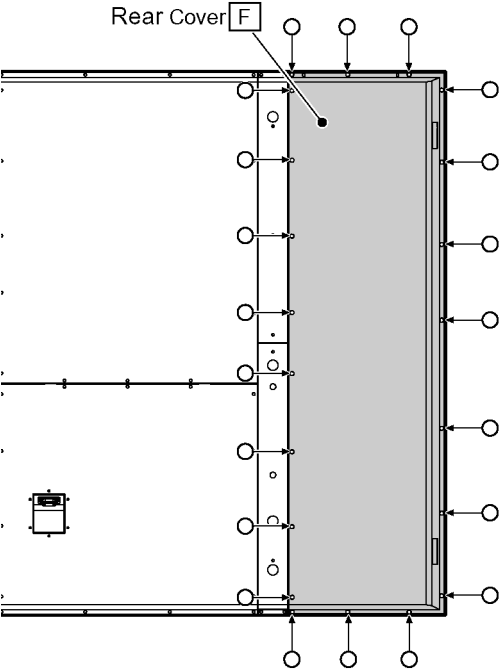


7.3.1. Removal of Side Angle (L)

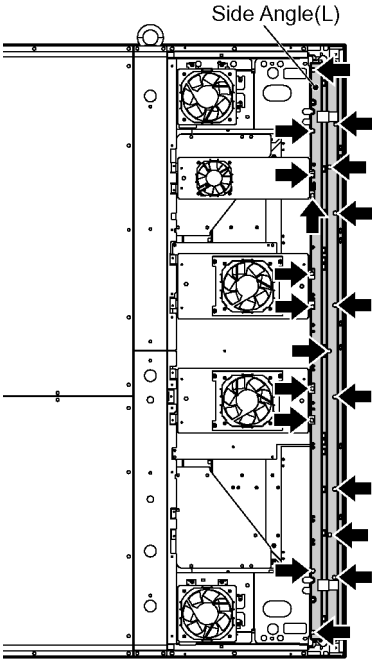
1. Remove 4 screws (A) of the Plate.



2. Remove screws (×21 ○) and then remove the Rear Cover (F̄).



2. Remove 19 screws and then remove the Side Angle (L).



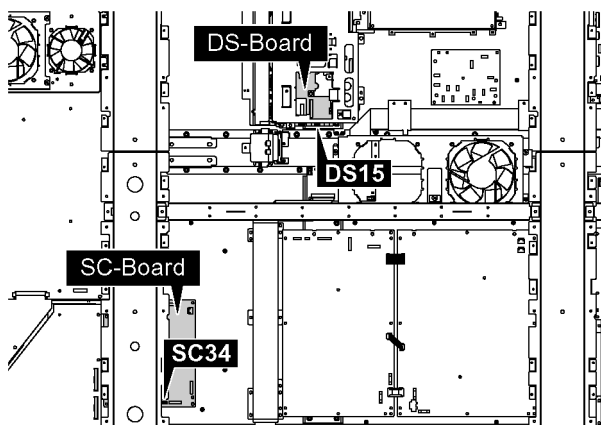
7.3. Removal of Side Angle (L), (R)

1. Remove Side Angle (L), (R) beforehand when remove the following Boards.

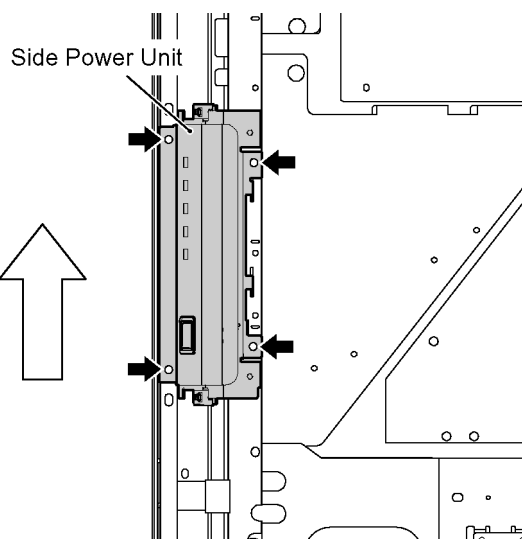
Board name	Side Angle
SU-Board	Side Angle (R)
SM-Board	Side Angle (R)
SD-Board	Side Angle (R)
SC-Board	Side Angle (R)
SS2-Board	Side Angle (L)
SS3-Board	Side Angle (L)
SS-Board	Side Angle (L)

7.3.2. Removal of Side Angle (R)

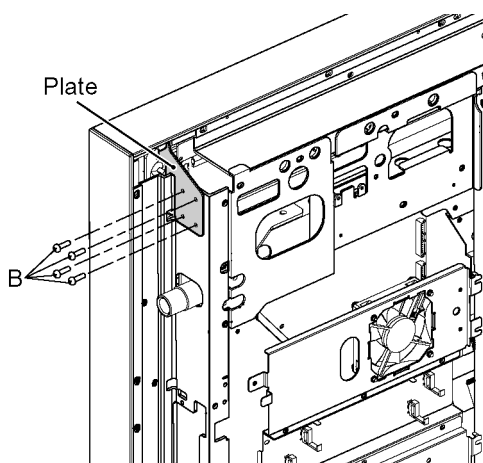
1. Disconnect the connectors (DS15, SC34).



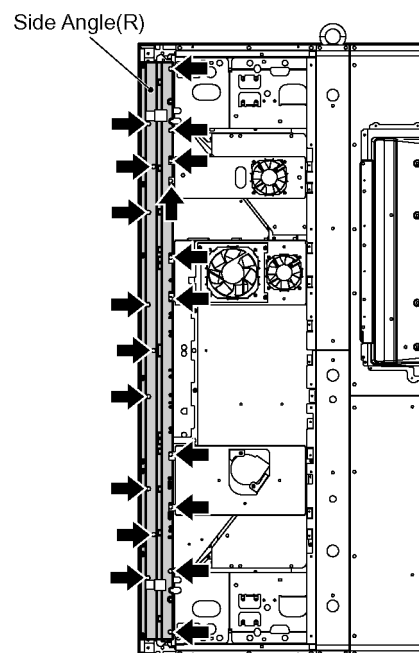
2. Remove 4 screws, and then slide the Side Power Unit upward.
3. Remove the side Power Unit.



4. Remove 4 screws (B) of the Plate.

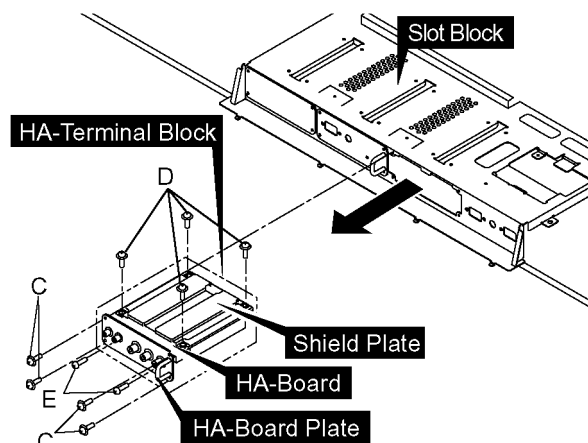


5. Remove 19 screws and then remove the Side Angle (R).



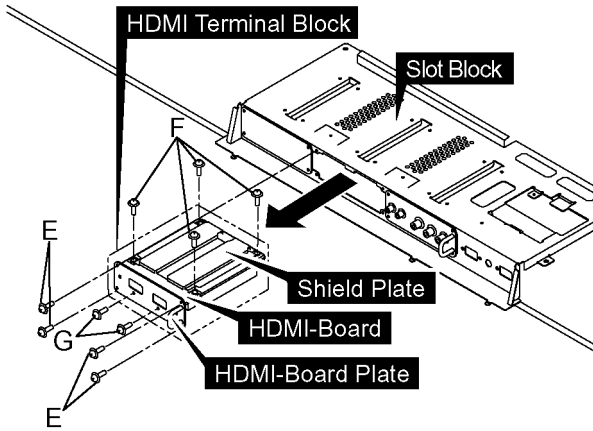
7.4. Removal of HA-Board

1. Remove 4 screws (C) and then remove the HA Terminal Block.
2. Remove 4 screws (D) and remove Shield Plate.
3. Remove 2 Hexagonal-Head screws (E) and then remove HA-Board.

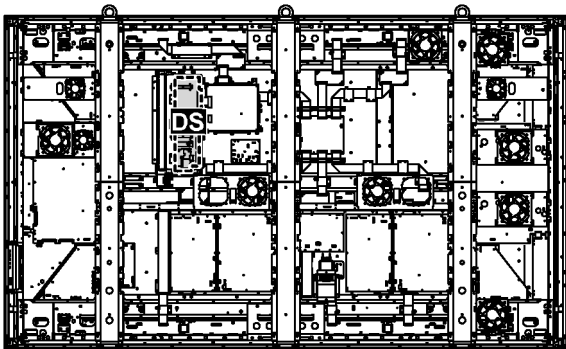


7.5. Removal of HDMI-Board

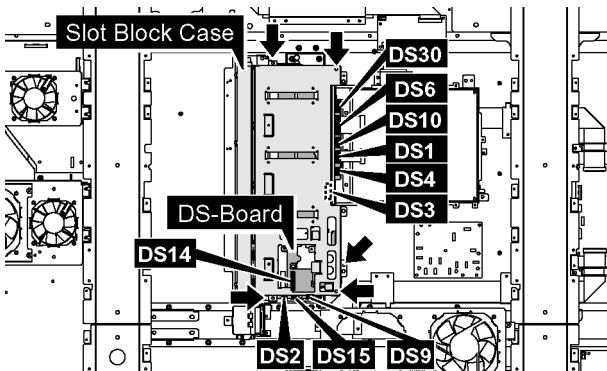
1. Remove 4 screws (E) and then remove the HDMI Terminal Block.
2. Remove 4 screws (F) and remove Shield Plate.
3. Remove 2 Hexagonal-Head screws (G) and then remove HDMI-Board.



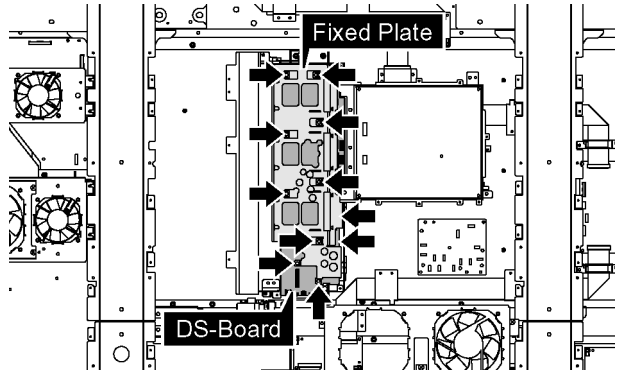
7.6. Removal of DS-Board



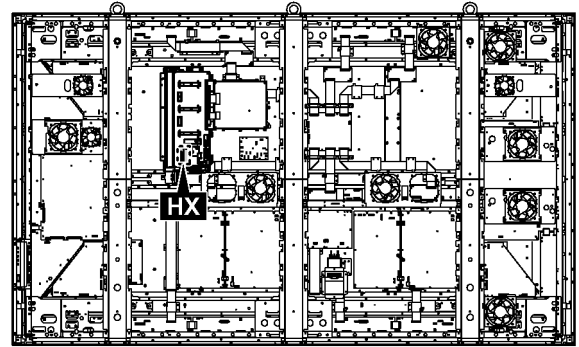
1. Disconnect the connectors (DS1, DS2, DS3, DS4, DS6, DS9, DS10, DS14, DS15, DS30).
2. Remove 5 screws and then remove the Slot Block Case.



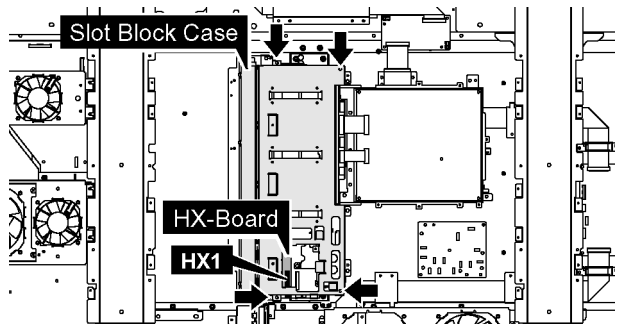
3. Remove 11 screws and then remove DS-Board.



7.7. Removal of HX-Board

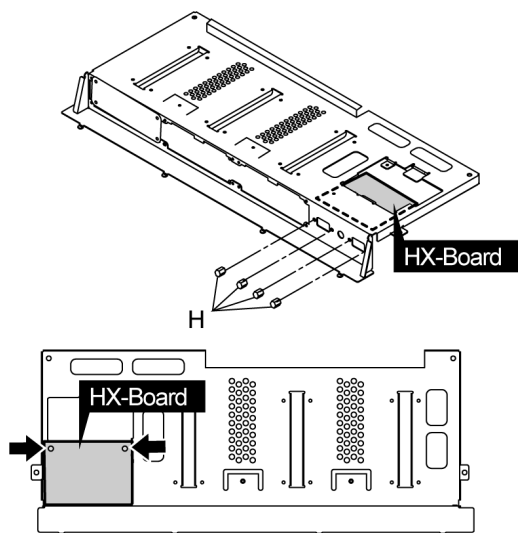


1. Remove the HA Terminal Block.
(Refer to Removal of HA-Board)
2. Remove the HDMI Terminal Block.
(Refer to Removal of HDMI-Board)
3. Disconnect the connectors (HX1).
4. Remove 4 screws and then remove the Slot Block Case.

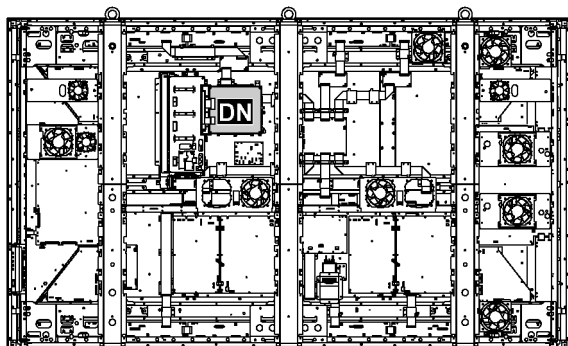


5. Remove 4 Hexagonal-Head screws (H) and 2 screws on

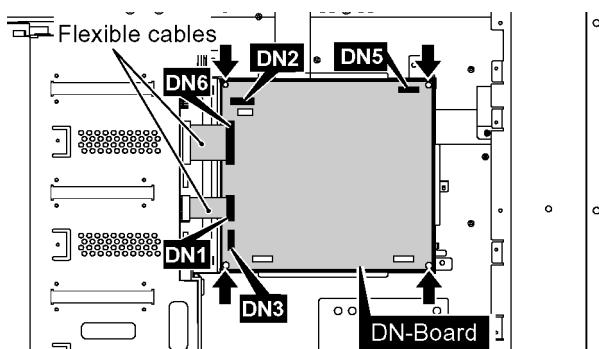
HX-Board, and then remove HX-Board.



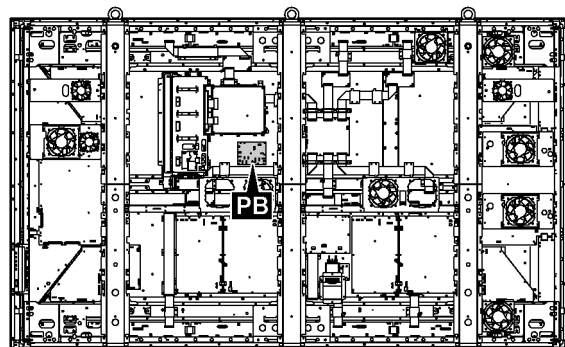
7.8. Removal of DN-Board



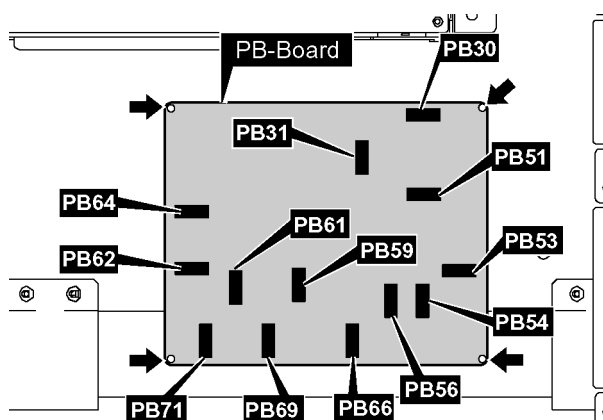
1. Remove the flexible cables from the connectors (DN1, DN6).
2. Disconnect the connectors (DN2, DN3, DN5).
3. Remove 4 screws and then remove DN-Board.



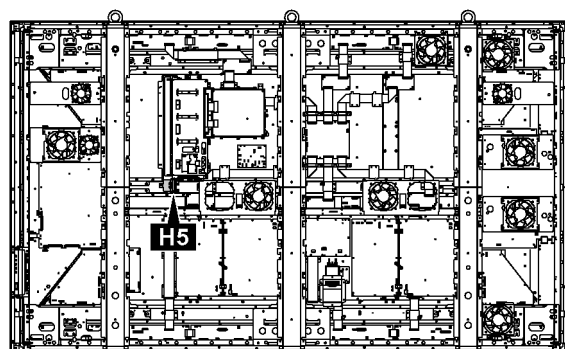
7.9. Removal of PB-Board



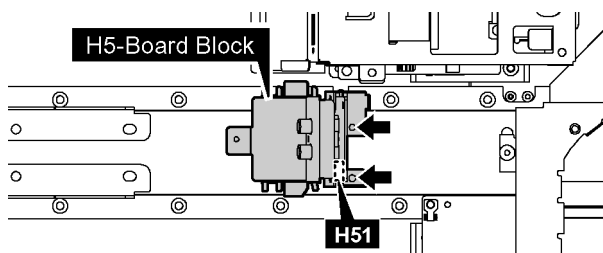
1. Disconnect the connectors (PB30, PB31, PB51, PB53, PB54, PB56, PB59, PB61, PB62, PB64, PB66, PB69, PB71).
2. Remove 4 screws and then remove PB-Board.



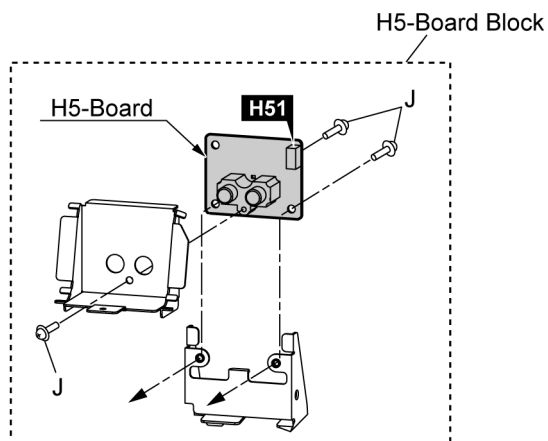
7.10. Removal of H5-Board



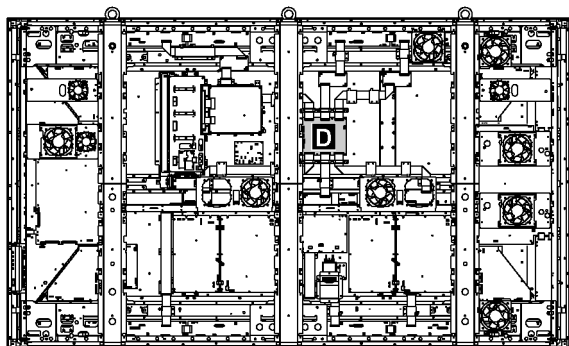
1. Disconnect a connector (H51).
2. Remove 2 screws and then remove H5-Board Block.



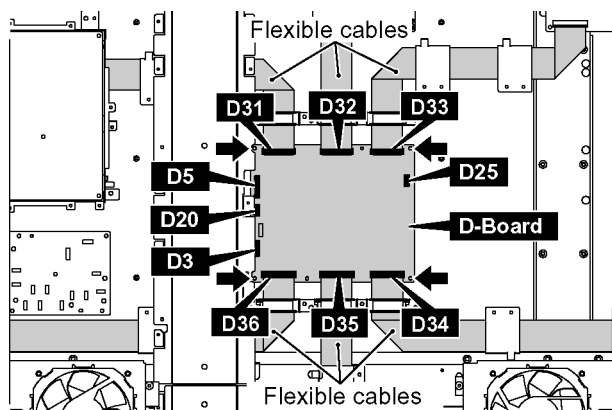
- Remove 3 screws (J) and then remove H5-Board.



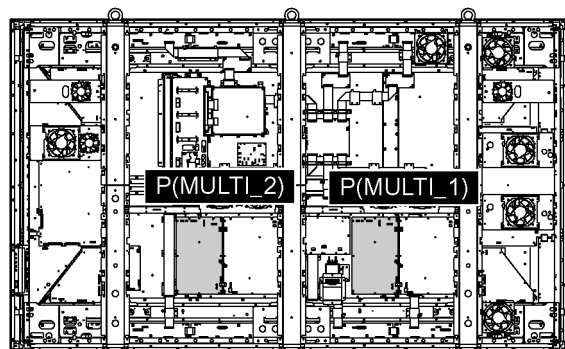
7.11. Removal of D-Board



- Remove the flexible cables from the connectors (D31, D32, D33, D34, D35, D36).
- Disconnect the connectors (D3, D5, D20, D25).
- Remove 4 screws and then remove D-Board.



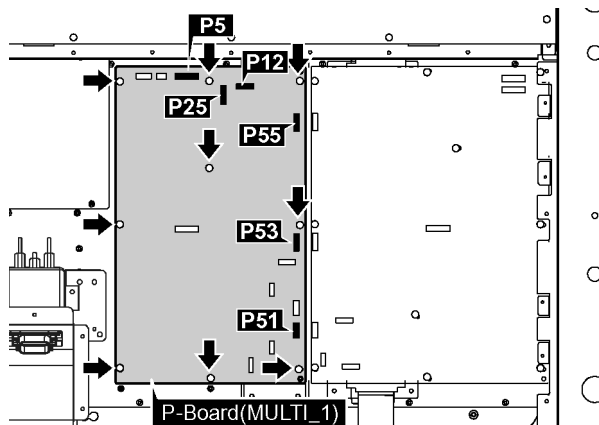
7.12. Removal of P-Board (MULTI_1), (MULTI_2)



The fuses are not included in P-Board for the repair.

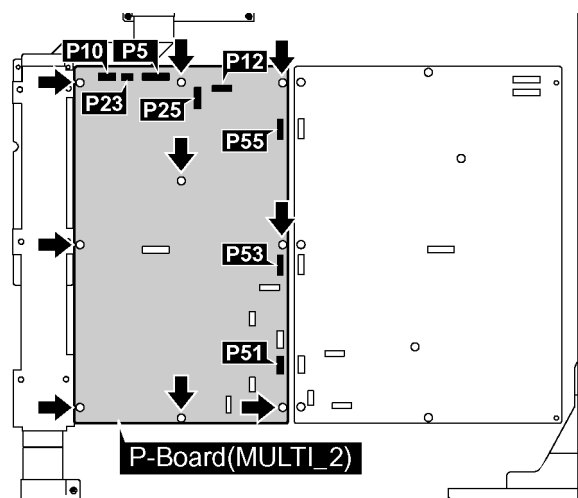
7.12.1. Removal of P-Board (MULTI_1)

- Disconnect the connectors (P5, P12, P25, P51, P53, P55).
- Remove 9 screws and then remove P-Board (MULTI_1).

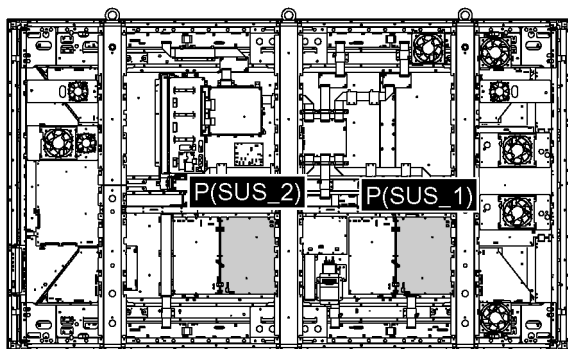


7.12.2. Removal of P-Board (MULTI_2)

- Disconnect the connectors (P5, P10, P12, P23, P25, P51, P53, P55).
- Remove 9 screw and then remove P-Board (MULTI_2).



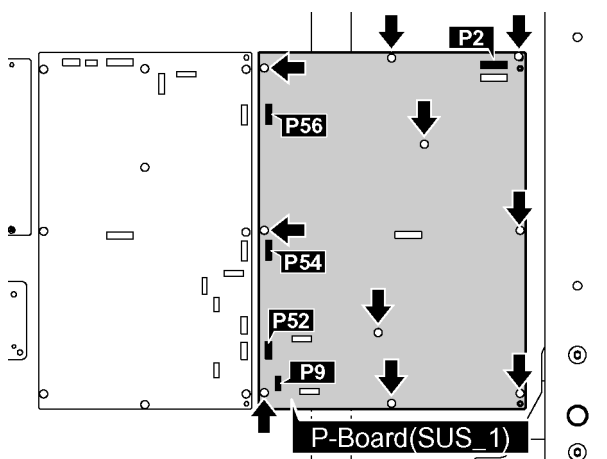
7.13. Removal of P-Board (SUS_1), (SUS_2)



The fuses are not included in P-Board for the repair.

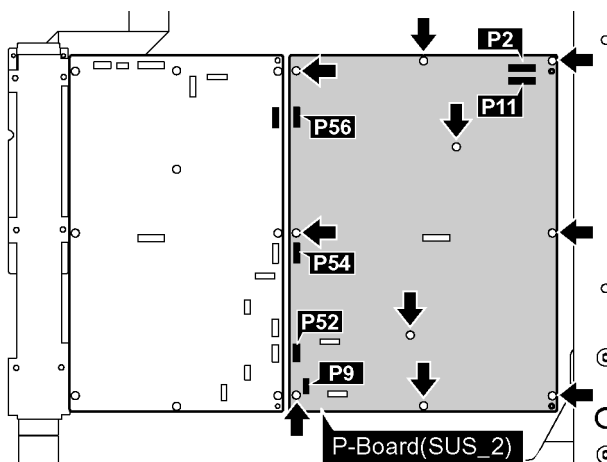
7.13.1. Removal of P-Board (SUS1)

1. Disconnect the connectors (P2, P9, P52, P54, P56).
2. Remove 10 screws and then remove P-Board (SUS_1).

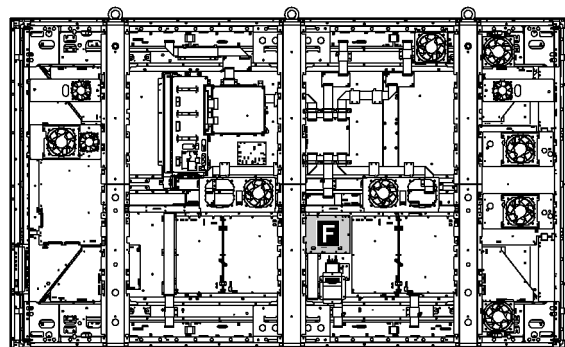


7.13.2. Removal of P-Board (SUS2)

1. Disconnect the connectors (P2, P9, P11, P52, P54, P56).
2. Remove 10 screws and then remove P-Board (SUS_2).

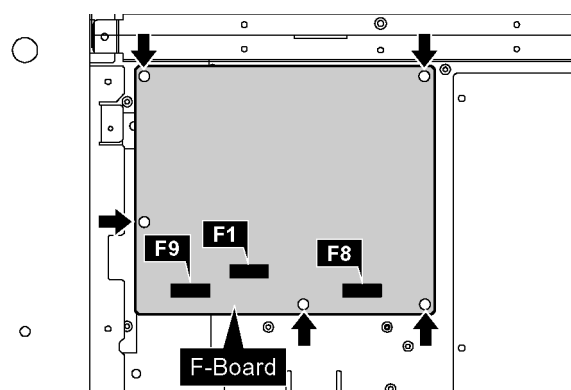


7.14. Removal of F-Board

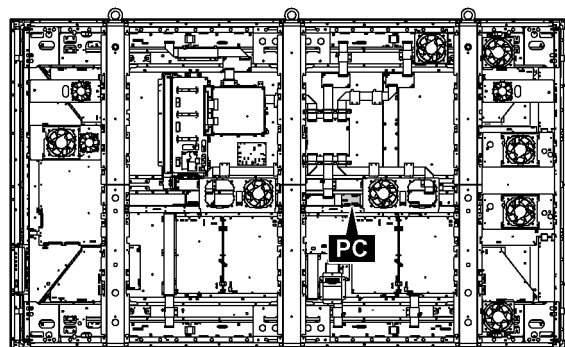


The fuses (F900, F901, F903, F904) are not included in F-Board for the repair.

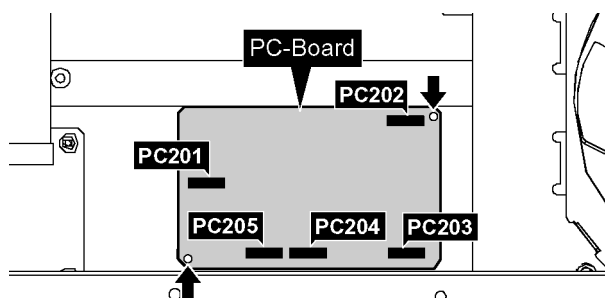
1. Disconnect the connectors (F1, F8, F9).
2. Remove 5 screws and then remove F-Board.



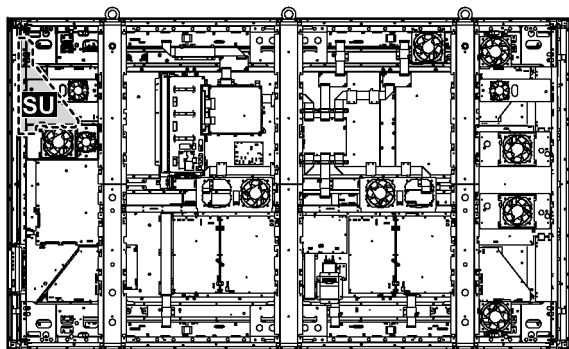
7.15. Removal of PC-Board



1. Disconnect the connectors (PC201, PC202, PC203, PC204, PC205).
2. Remove 2 screws and then remove PC-Board.

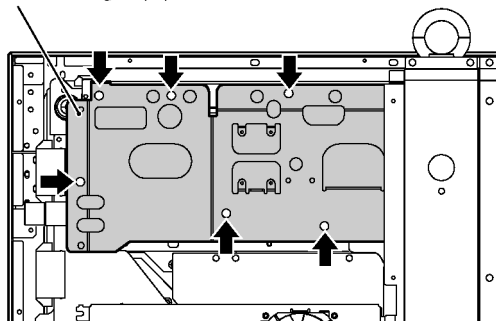


7.16. Removal of SU-Board

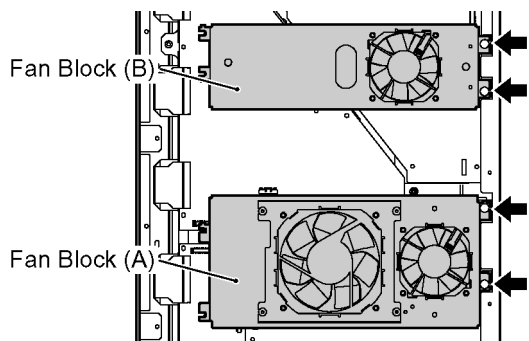


1. Remove the Side Angle (R).
(Refer to Removal of the Side Angle (L), (R))
2. Remove 6 screws and then remove the Reinforcement Angle (A).

Reinforcement Angle (A)

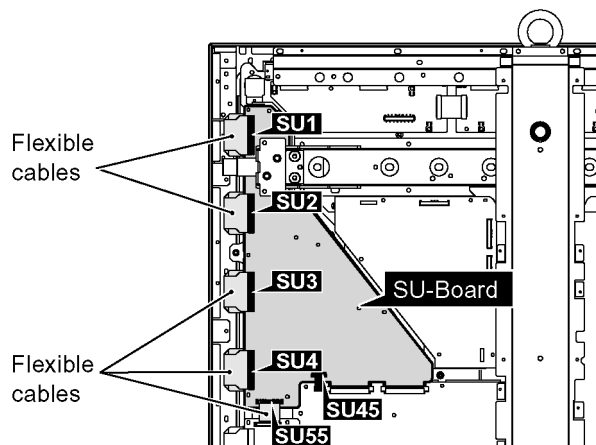


3. Disconnect the Fan relay connectors.
4. Remove 4 screws and then remove the Fan Block (A), (B).

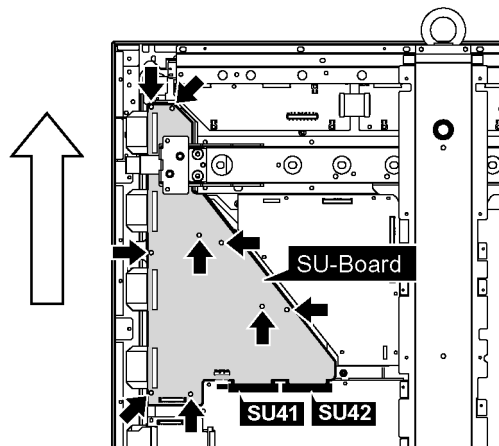


5. Remove the flexible cables from the connectors (SU1, SU2, SU3, SU4, SU55).

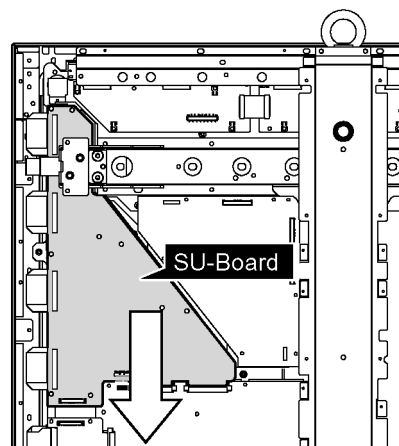
6. Disconnect the connector (SU45).



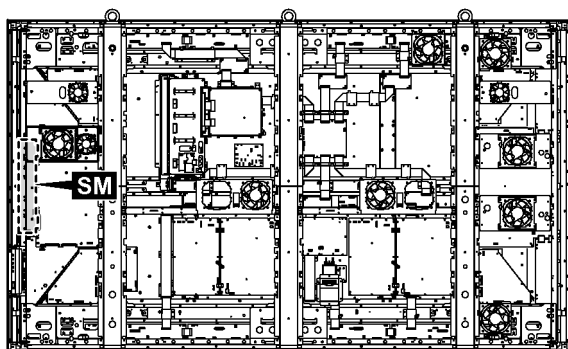
7. Remove 9 screws.
8. Slide the SU-Board to the upper direction to remove the SU-Board from the connectors (SU41, SU42).
Take out so as not to damage SU-Board.



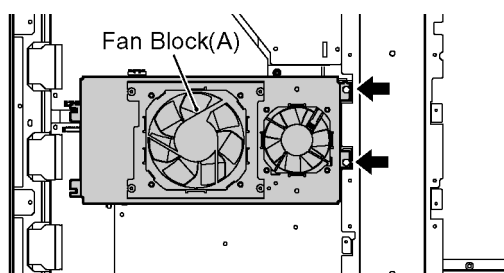
9. Slide the SU-Board to the bottom direction to remove the SU-Board.



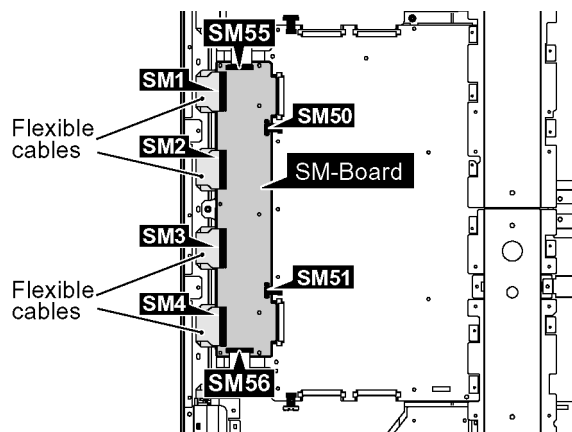
7.17. Removal of SM-Board



1. Remove the Side Angle (R).
(Refer to Removal of the Side Angle (L), (R))
2. Disconnect the Fan relay connectors.
3. Remove 2 screws and then remove the Fan Block (A).

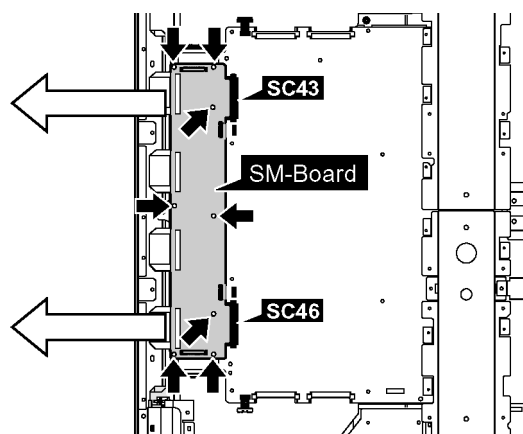


4. Remove the flexible cables from the connectors (SM1, SM2, SM3, SM4, SM55, SM56).
5. Disconnect the connectors (SM50, SM51).

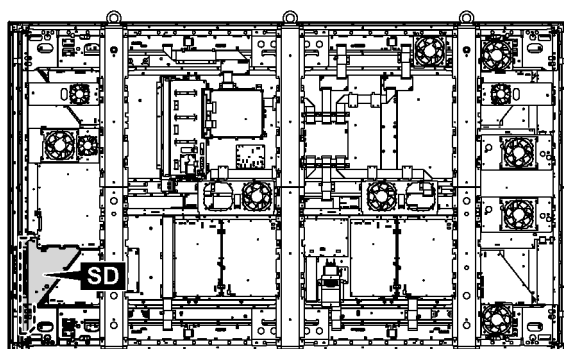


6. Remove 8 screws.
7. Slide SM-Board to the left direction to remove SM-Board

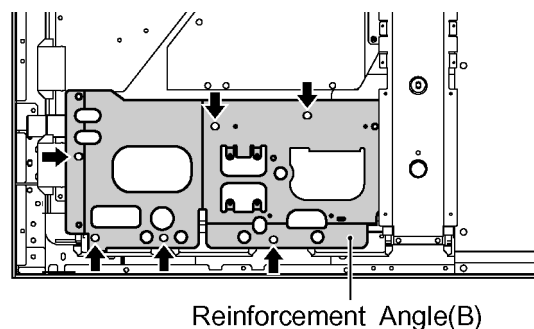
from the connectors (SC43, SC46).



7.18. Removal of SD-Board

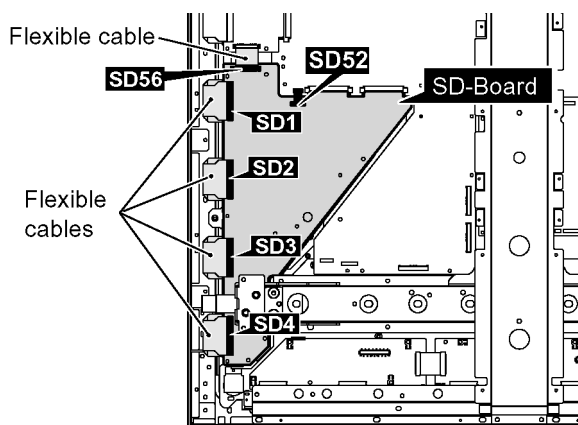


1. Remove the Side Angle (R).
(Refer to Removal of the Side Angle (L), (R))
2. Remove 6 screws and then remove the Reinforcement Angle (B).

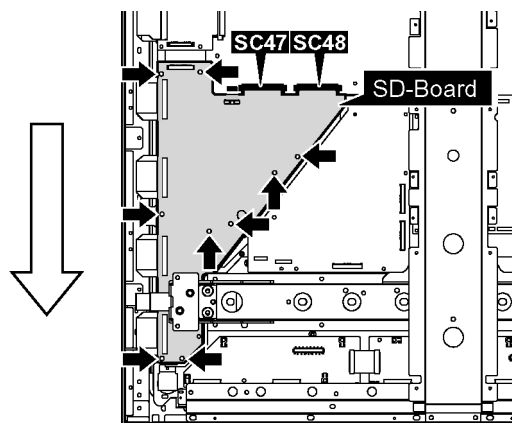


3. Remove the flexible cables from the connectors (SD1, SD2, SD3, SD4, SD56).

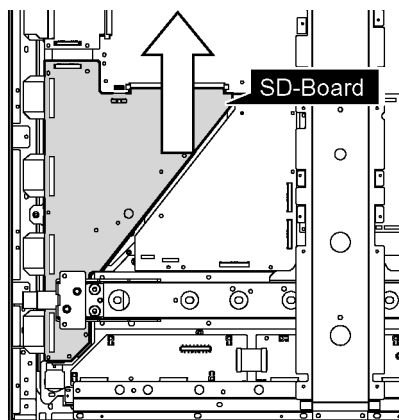
4. Disconnect the connectors (SD52).



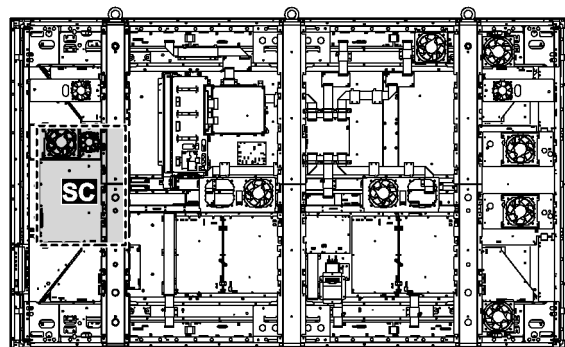
5. Remove 9 screws.
 6. Slide SD-Board to the bottom direction to remove SD-Board from the connectors (SC47, SC48).
Take out so as not damage SD-Board.



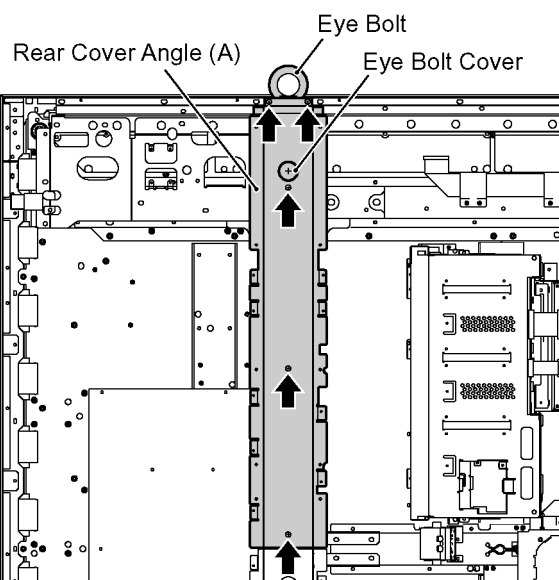
7. Slide the SD-Board to the upper direction to remove the SD-Board.



7.19. Removal of SC-Board

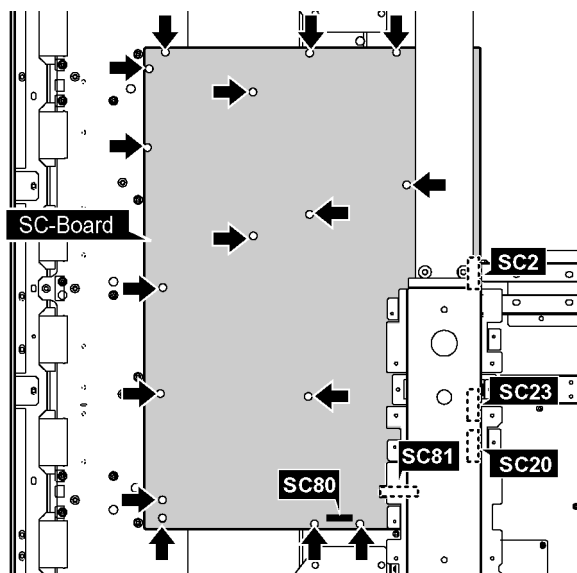


1. Remove SU-Board.
(Refer to Removal of SU-Board)
2. Remove SM-Board.
(Refer to Removal of SM-Board)
3. Remove SD-Board.
(Refer to Removal of SD-Board)
4. Remove the Eye Bolt and Eye Bolt Cover.
5. Remove 5 screws and then remove the Rear Cover Angle (A).

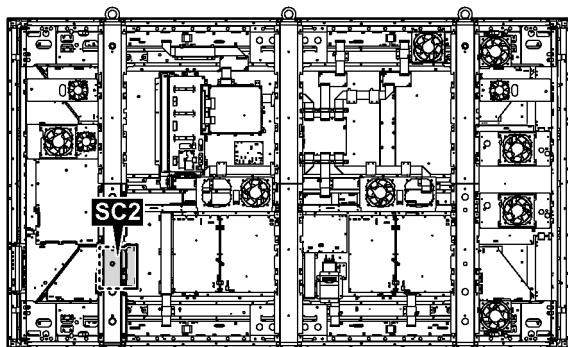


6. Disconnect the connectors (SC2, SC20, SC23, SC80, SC81).

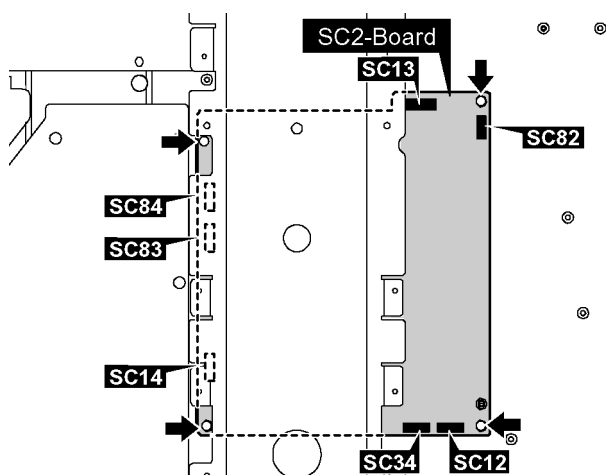
7. Remove 16 screws and then remove SC-Board.



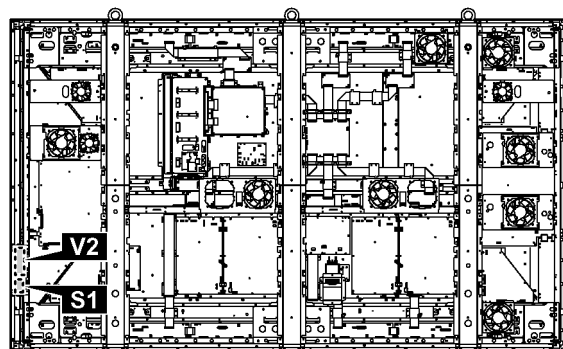
7.20. Removal of SC2-Board



1. Disconnect the connectors (SC12, SC13, SC14, SC34, SC82, SC83, SC84).
2. Remove 4 screws and then remove SC2-Board.

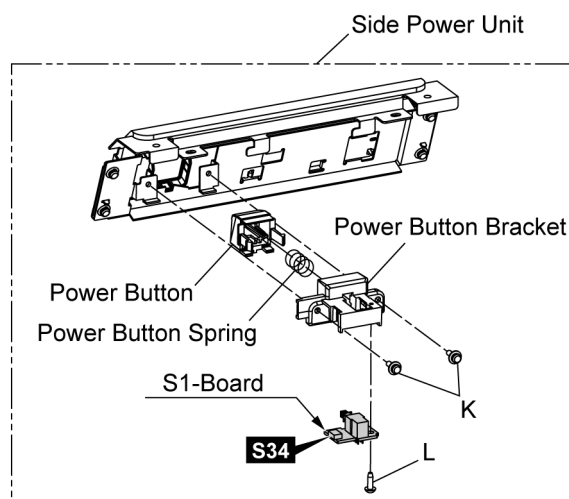


7.21. Removal of S1-Board and V2-Board



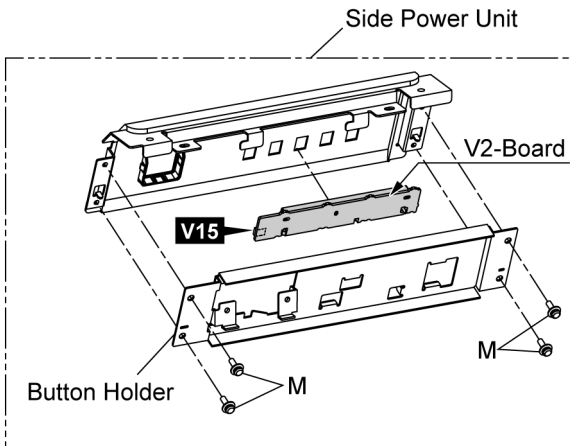
7.21.1. Removal of S1-Board

1. Remove the Side Power Unit.
(Reference to Removal of the Side Angle (L), (R))
2. Remove 2 screws (K).
3. Remove 1 screw (L).
4. Disconnect the connector (S34) and then remove S1-Board.s

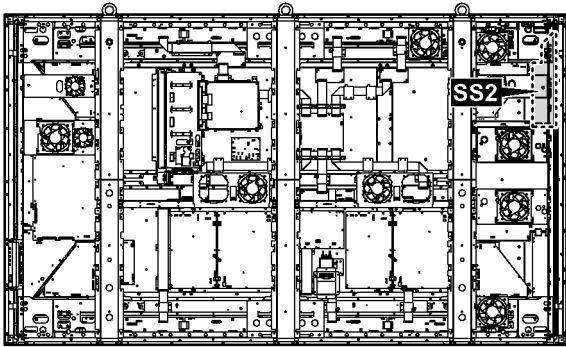


7.21.2. Removal of V2-Board

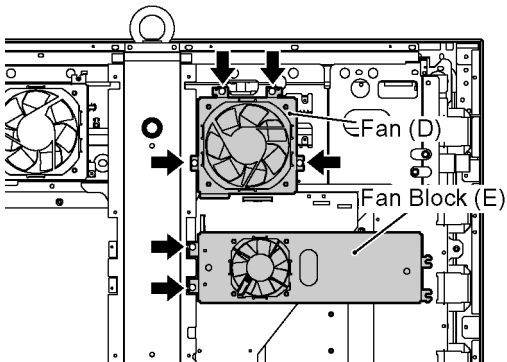
1. Removal the S1-Board
(Refer to Removal of the S1-Board and V2-Board)
2. Remove 4 screws (M).
3. Disconnect the connector (V15) and then remove V2-Board.



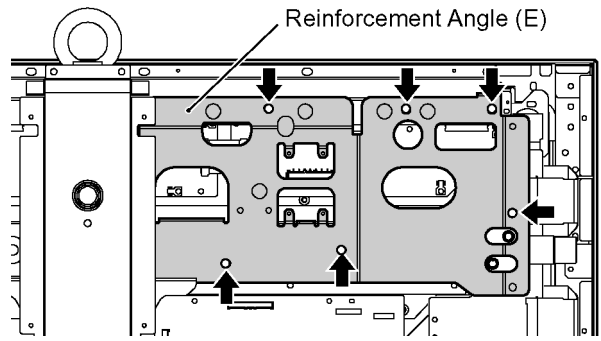
7.22. Removal of SS2-Board



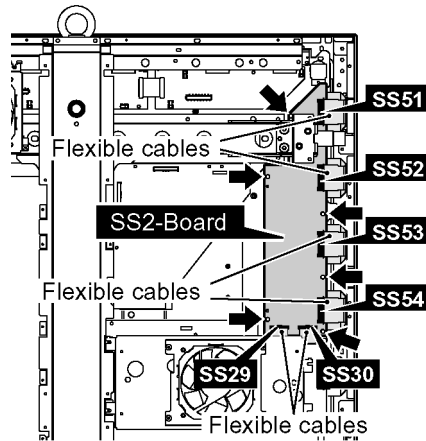
1. Remove the Side Angle (L).
(Refer to Removal of the Side Angle (L),(R))
2. Disconnect the Fan relay connectors.
3. Remove 6 screws and then remove the Fan (D) and Fan Block (E).



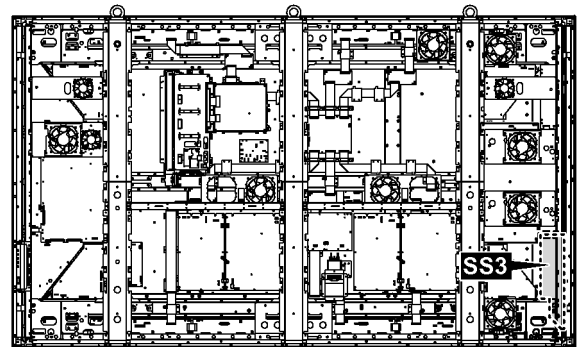
4. Remove 6 screws and then remove the Reinforcement Angle (E).



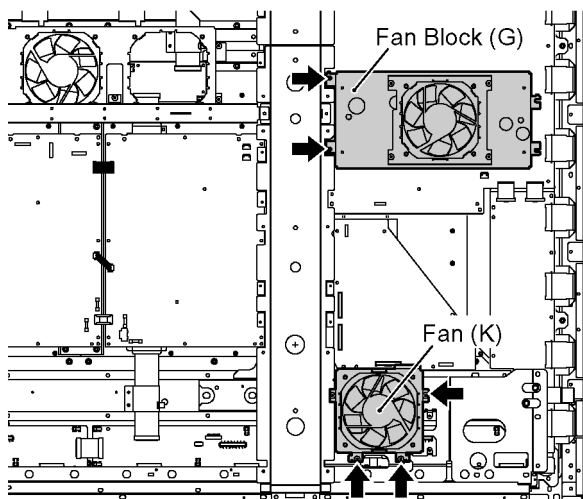
5. Remove the flexible cables from the connectors (SS29, SS30, SS51, SS52, SS53, SS54).
6. Remove 6 screws and then remove SS2-Board.



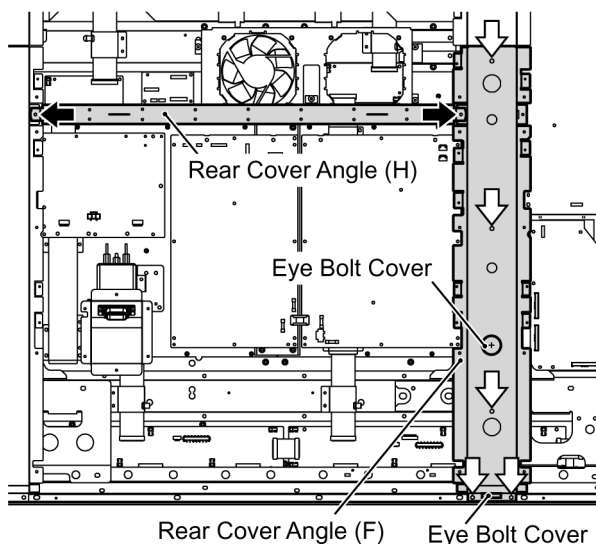
7.23. Removal of SS3-Board



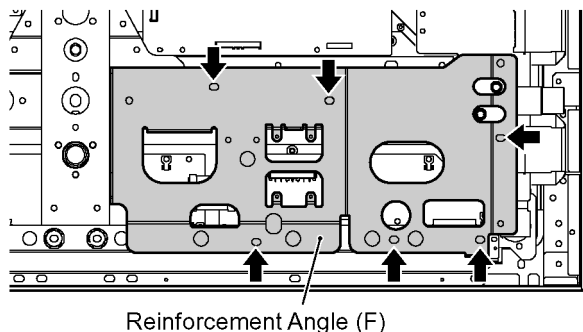
1. Remove the Side Angle (L).
(Refer to Removal of Side Angle (L),(R))
2. Disconnect the Fan relay connectors.
3. Remove 5 screws and then remove the Fan Block (G) and Fan (K).



4. Remove 2 screws (↑) and then remove the Rear Cover Angle (H).
5. Remove 2 Eye Bolt Covers.
6. Remove 5 screws (⇩) and then remove the Rear Cover Angle (F).

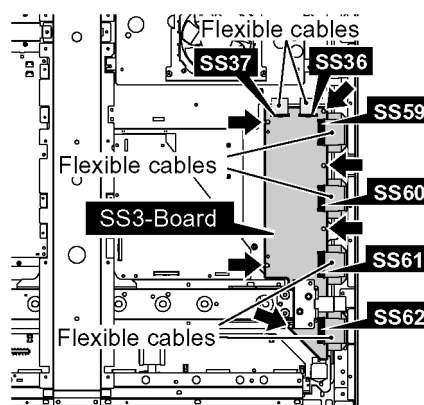


7. Remove 6 screws and then remove the Reinforcement Angle (F).

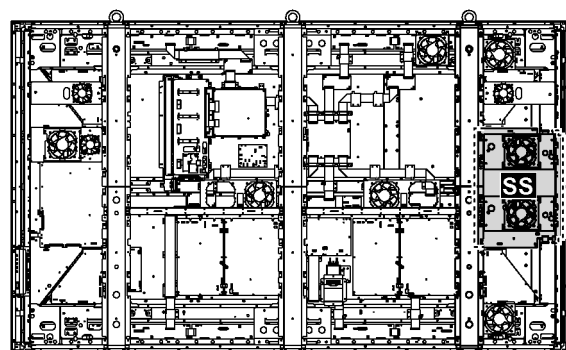


8. Remove the flexible cables from the connectors (SS36, SS37, SS59, SS60, SS61, SS62).

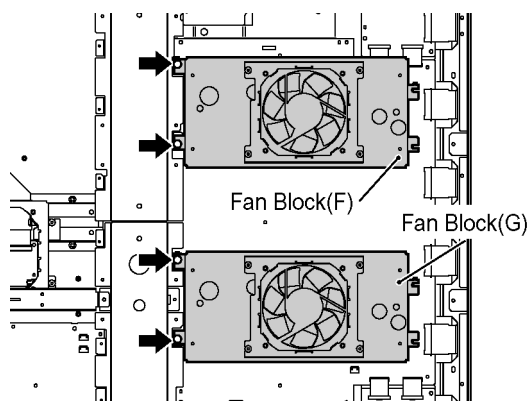
9. Remove 6 screws and then remove SS3-Board.



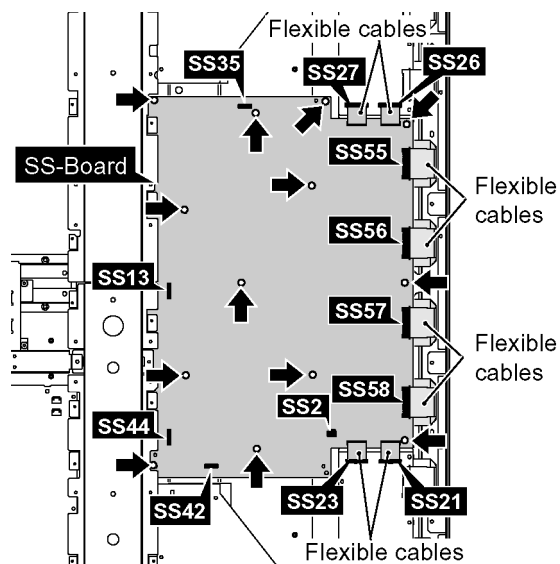
7.24. Removal of SS-Board



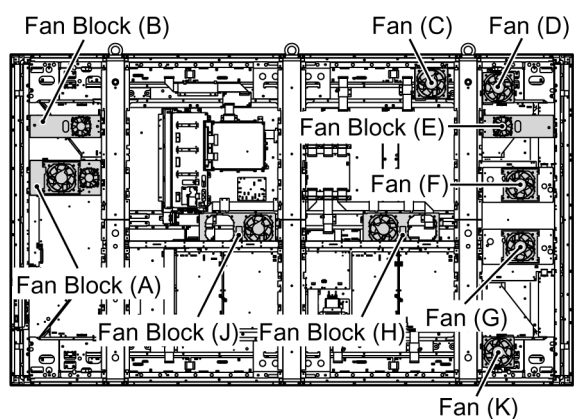
1. Remove the Side Angle (L).
(Refer to Removal of Side Angle (L),(R))
2. Disconnect the Fan relay connectors.
3. Remove 4 screws and then remove the Fan Block (F), (G).



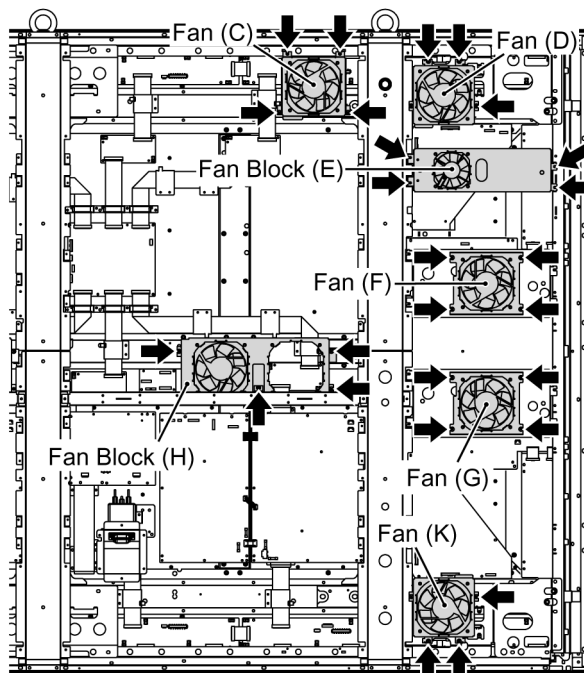
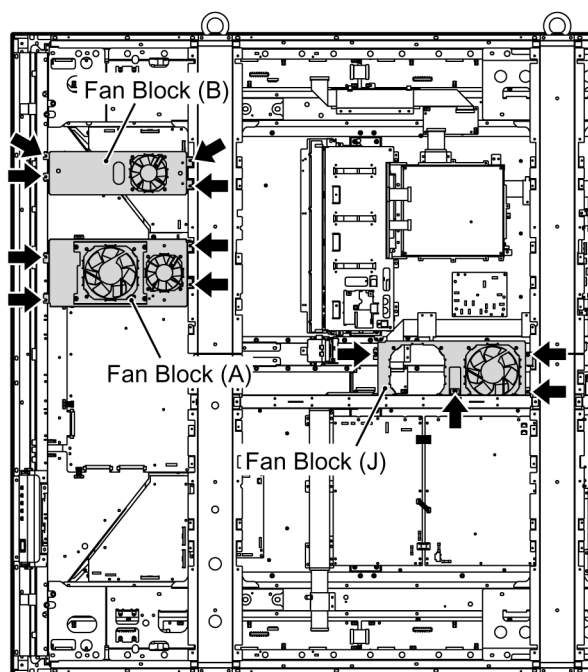
4. Remove the flexible cables from the connectors (SS21, SS23, SS26, SS27, SS55, SS56, SS57, SS58).
5. Disconnect the connectors (SS2, SS13, SS35, SS42, SS44).
6. Remove 13 screws and then remove SS-Board.



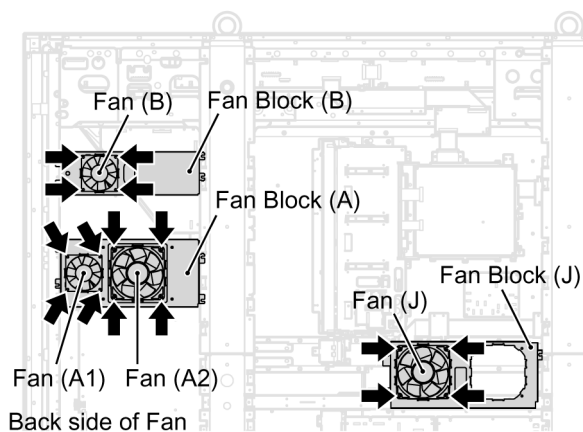
7.25. Removal of Fan

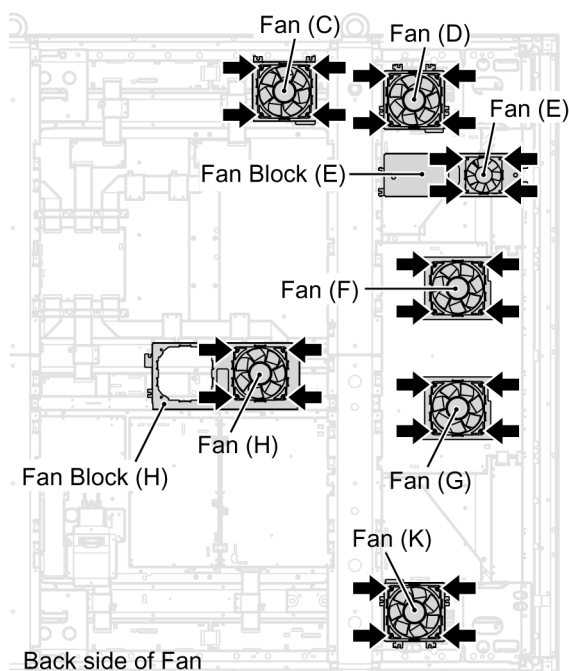


1. Disconnect the Fan relay connectors.
2. Remove each 4 screws of Fan Block (A), (B), (E), (H), (J) and then remove the Fan Blocks.
3. Remove each 4 screws of Fan (C), (F), (G) and then remove the Fans.
4. Remove each 3 screws of Fan (D), (K) and then remove the Fans.

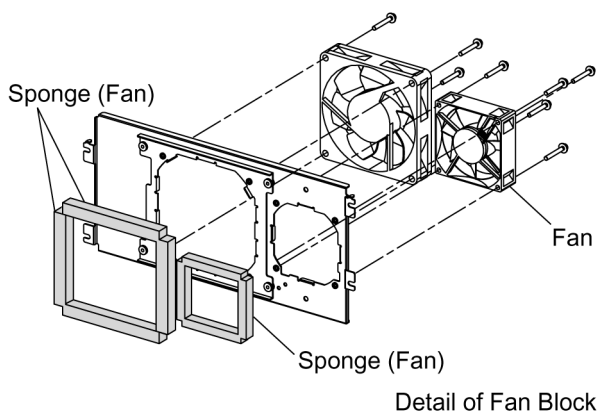
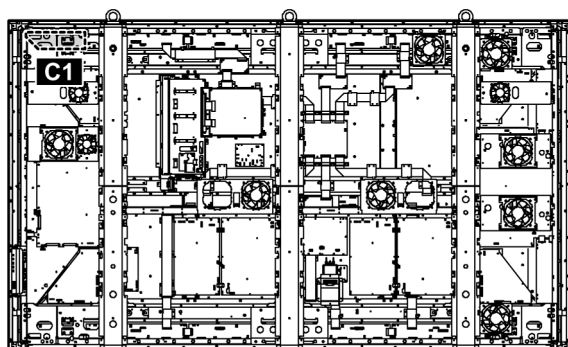


5. Remove each 4 screws and then remove the Fans.

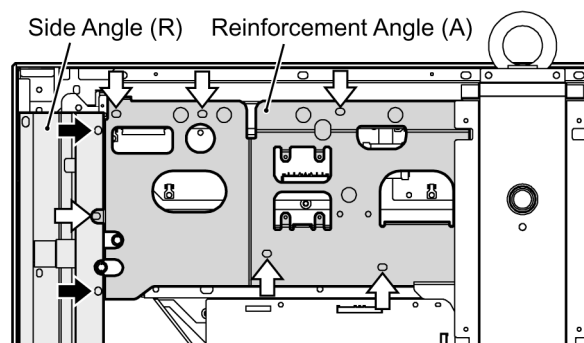


**Note:**

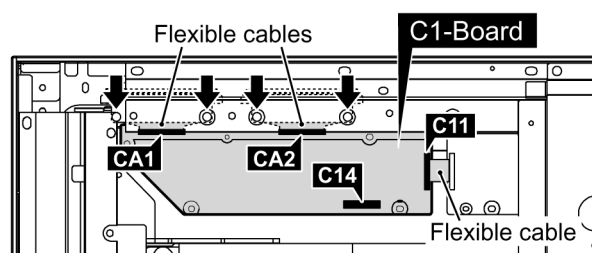
- The Sponge (of Fans) is not re-useable.
Please use a new one when Fan exchange.

**7.26. Removal of C1-Board**

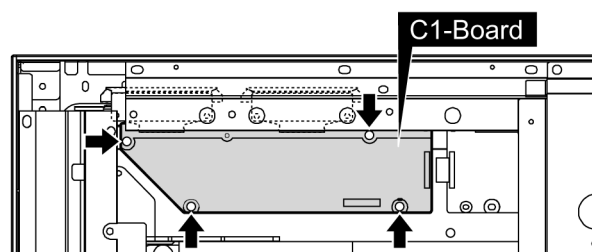
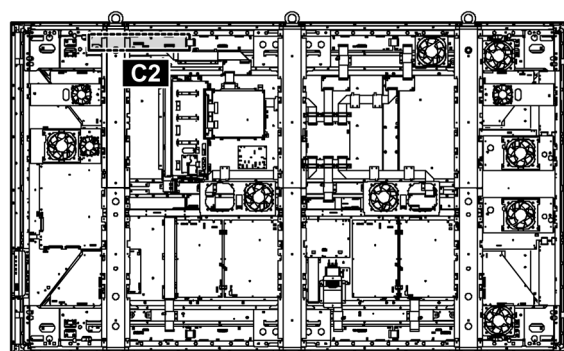
1. Remove 2 screws (⬆) of Side Angle (R).
2. Remove 6 screws (⬆) and then remove the Reinforcement Angle (A).



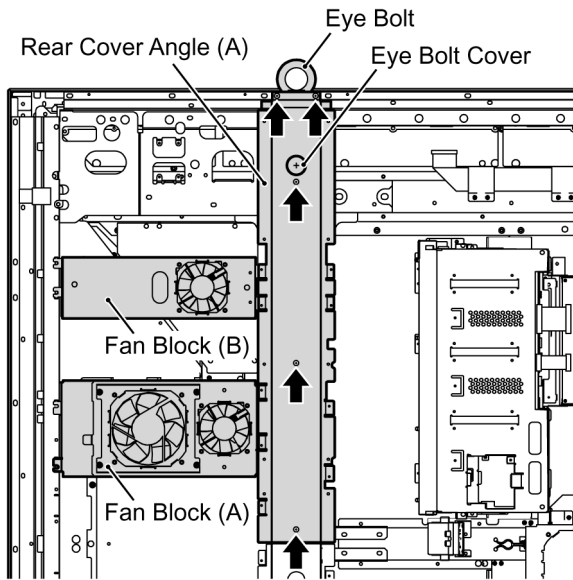
3. Remove 4 screws of the flexible cable.
4. Disconnect the connector (C14).
5. Remove the flexible cables from the connectors (CA1, CA2, C11).



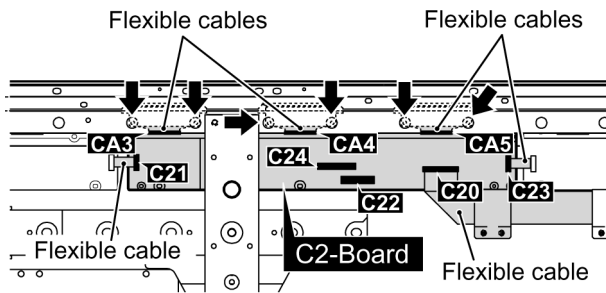
6. Remove 4 screws and then remove C1-Board.

**7.27. Removal of C2-Board**

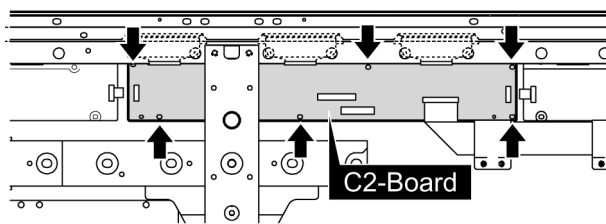
1. Remove the Fan Block (A), (B).
(Refer to Removal of Fan)
2. Remove the Eye Bolt and Eye Bolt Cover.
3. Remove 5 screws and then remove the Rear Cover Angle (A).



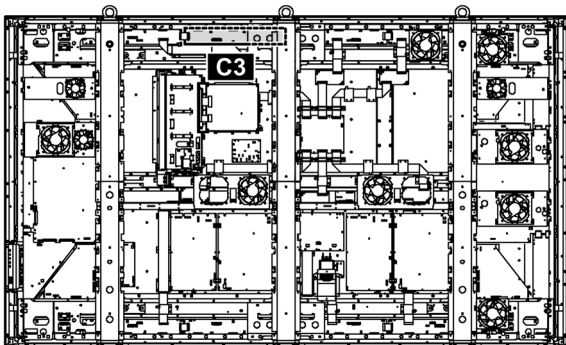
4. Remove the Reinforcement Angle (A).
(Refer to Removal of C1-Board)
5. Remove 6 screws of the flexible cable.
6. Remove the flexible cables from the connectors (CA3, CA4, CA5, C20, C21, C23).
7. Disconnect the connectors (C22, C24).



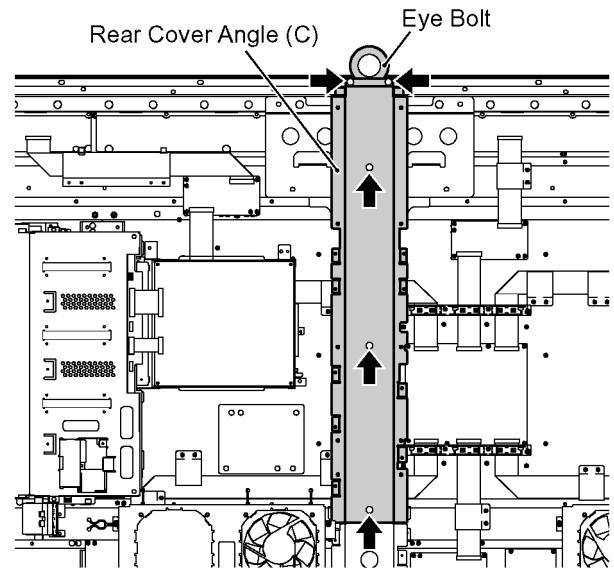
8. Remove 6 screws and then remove C2-Board.



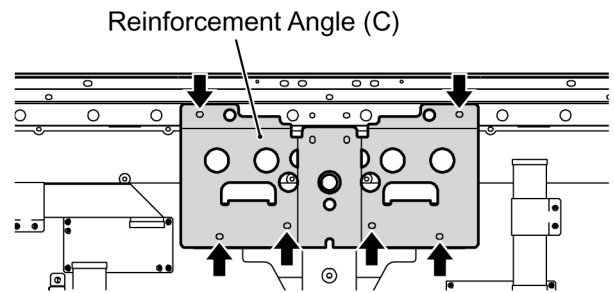
7.28. Removal of C3-Board



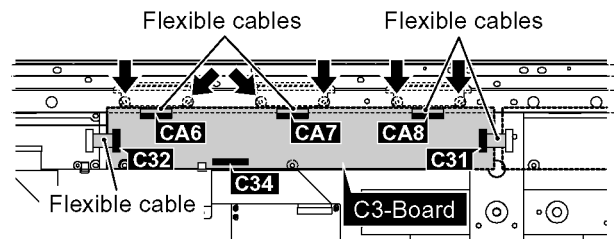
1. Remove the Eye Bolt.
2. Remove 5 screws and then remove the Rear Cover Angle (C).



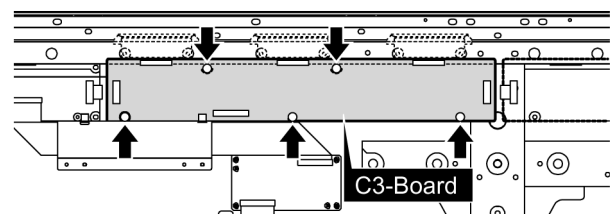
3. Remove 6 screws and then remove the Reinforcement Angle (C).



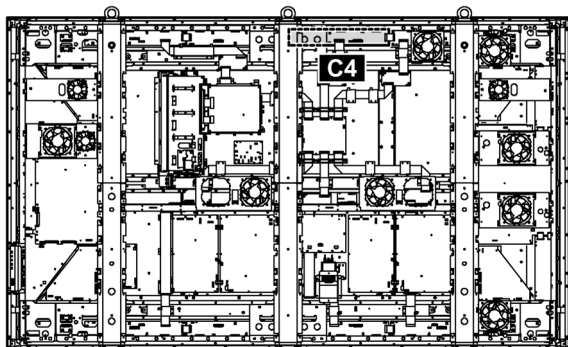
4. Remove 6 screws of the flexible cable.
5. Remove the flexible cables from the connectors (CA6, CA7, CA8, C31, C32).
6. Disconnect the connector (C34).



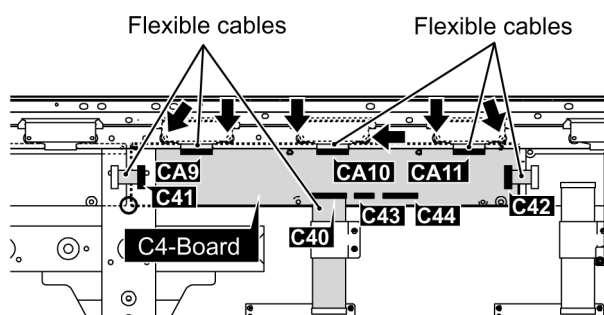
7. Remove 5 screws and then remove C3-Board.



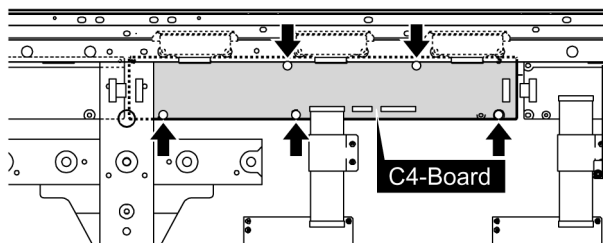
7.29. Removal of C4-Board



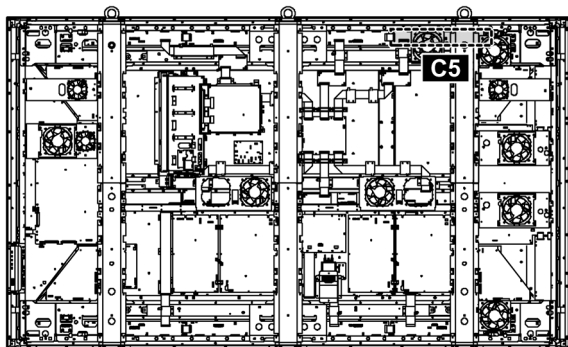
1. Remove the Rear Cover Angle (C).
(Refer to Removal of C3-Board)
2. Remove the Reinforcement Angle (C).
(Refer to Removal of C3-Board)
3. Remove 6 screws of the flexible cable.
4. Remove the flexible cables from the connectors (CA9, CA10, CA11, C40, C41, C42).
5. Disconnect the connectors (C43, C44).



6. Remove 5 screws and then remove C4-Board.

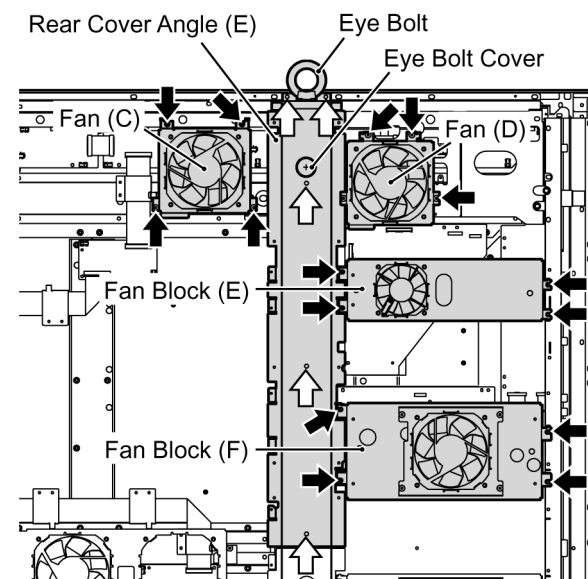


7.30. Removal of C5-Board

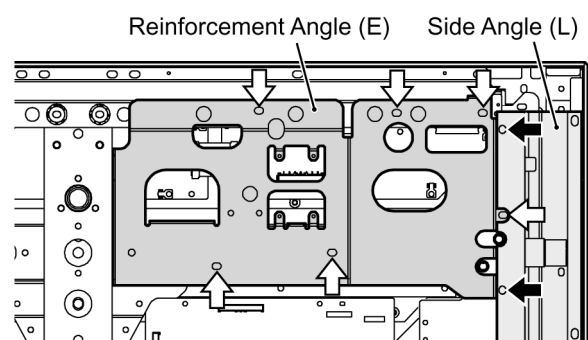


1. Remove the Eye Bolt and Eye Bolt Cover.
2. Remove 15 screws (⬆) and then remove the Fan (C), (D) and Fan Block (E), (F).

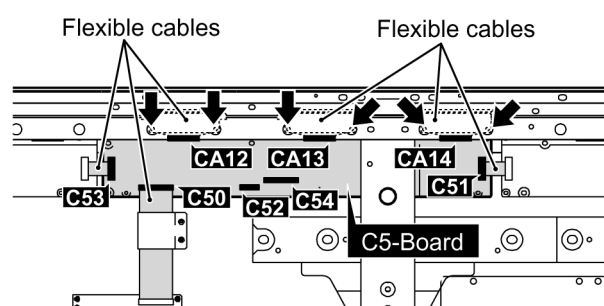
3. Remove 5 screws (⬆) and then remove the Rear Cover Angle (E).



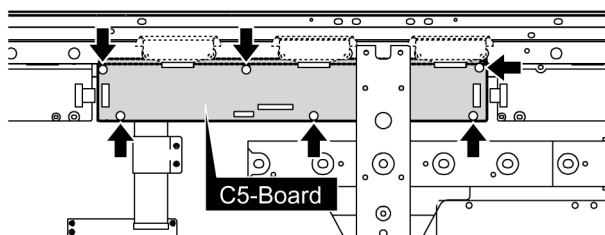
4. Remove 2 screws (⬆) of Side Angle (L).
5. Remove 6 screws (⬆) and then remove the Reinforcement Angle (E).



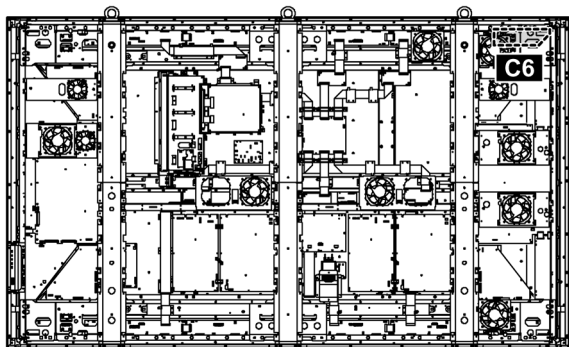
6. Remove 6 screws of the flexible cable.
7. Remove the flexible cables from the connectors (CA12, CA13, CA14, C50, C51, C53).
8. Disconnect the connectors (C52, C54).



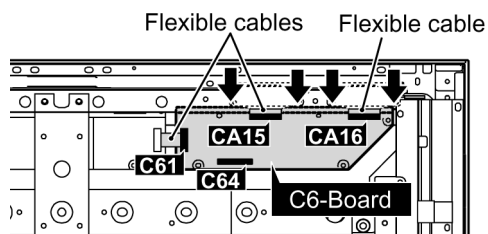
9. Remove 6 screws and then remove C5-Board.



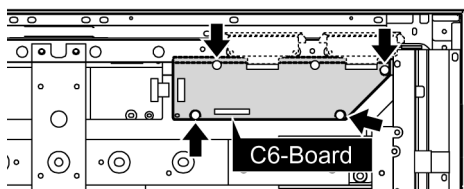
7.31. Removal of C6-Board



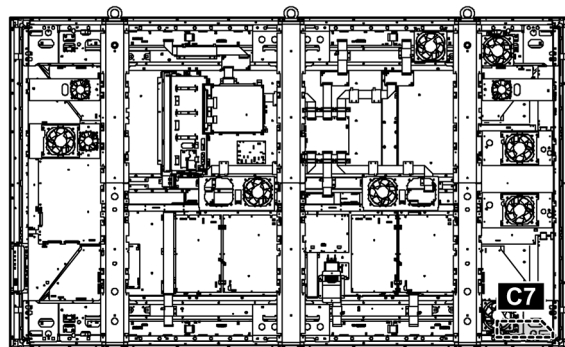
1. Remove the Fan (D).
(Refer to Removal of C5-Board)
2. Remove the Reinforcement Angle (E).
(Refer to Removal of C5-Board)
3. Remove 4 screws of the flexible cable.
4. Remove the flexible cables from the connectors (CA15, CA16, C61).
5. Disconnect the connector (C64).



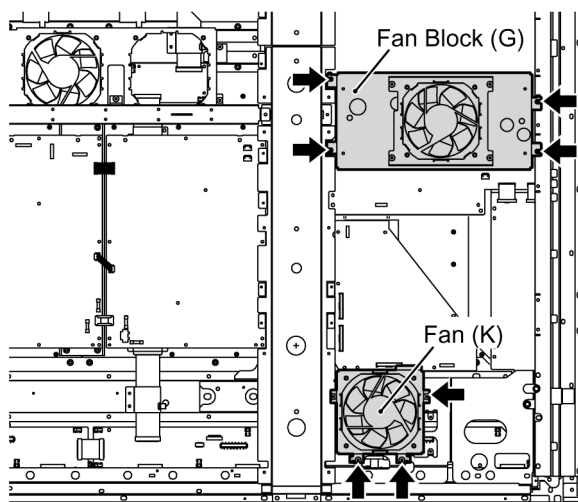
6. Remove 4 screws and then remove C6-Board.



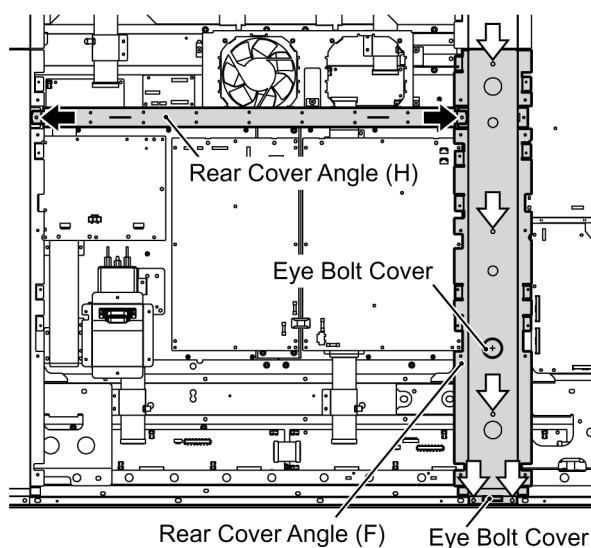
7.32. Removal of C7-Board



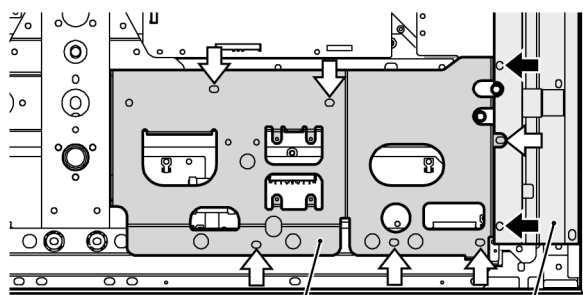
1. Remove 7 screws and then remove the Fan Block (G) and Fan (K).



2. Remove 2 screws (↑) and then remove the Rear Cover Angle (H).
3. Remove the Eye Bolt Covers.
4. Remove 5 screws (⇧) and then remove the Rear Cover Angle (F).

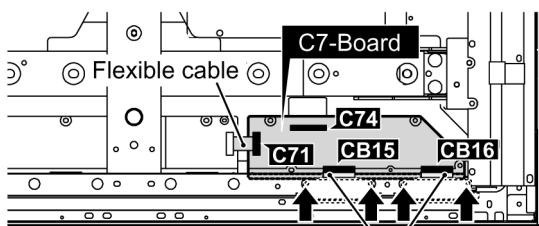


5. Remove 2 screws (↑) of Side Angle (L).
6. Remove 6 screws (⇧) and then remove the Reinforcement Angle (F).



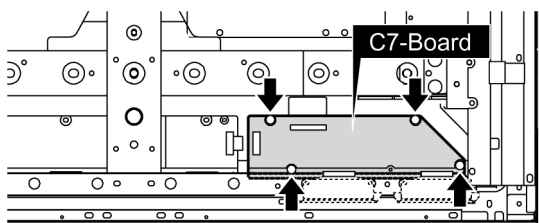
Reinforcement Angle (F) Side Angle (L)

7. Remove 4 screws of the flexible cable.
8. Remove the flexible cables from the connectors (CB15, CB16, C71).
9. Disconnect the connector (C74).

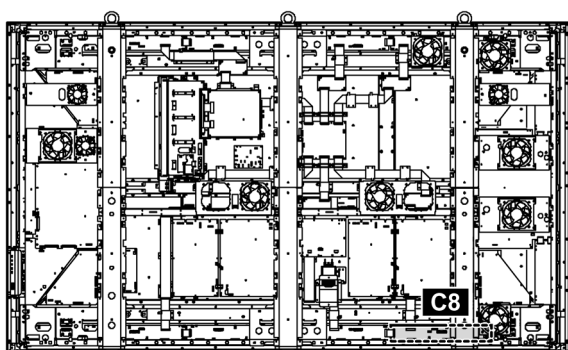


Flexible cables

10. Remove 4 screws and then remove C7-Board.

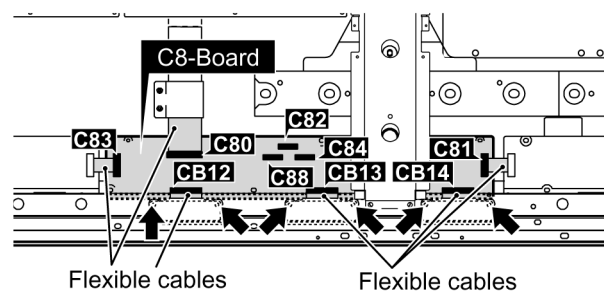


7.33. Removal of C8-Board



1. Remove the Fan Block (G) and Fan (K).
(Refer to Removal of C7-Board)
2. Remove the Rear Cover Angle (F), (H).
(Refer to Removal of C7-Board)
3. Remove the Reinforcement Angle (F).
(Refer to Removal of C7-Board)
4. Remove 6 screws of the flexible cable.
5. Remove the flexible cables from the connectors (CB12, CB13, CB14, C80, C81, C83).

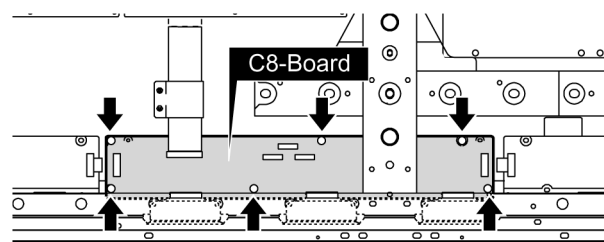
6. Disconnect the connectors (C82, C84, C88).



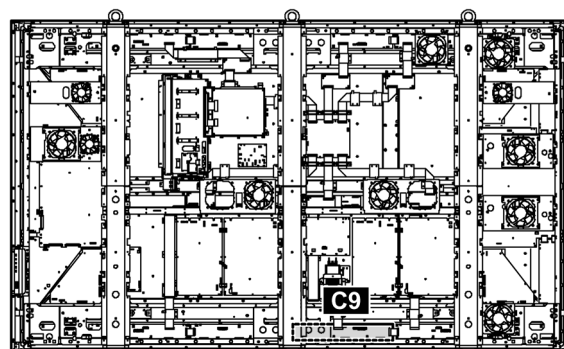
Flexible cables

Flexible cables

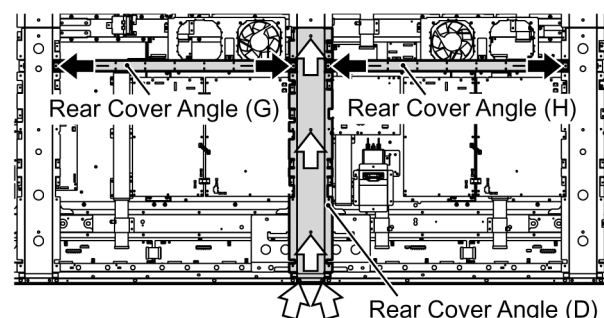
7. Remove 6 screws and then remove C8-Board.



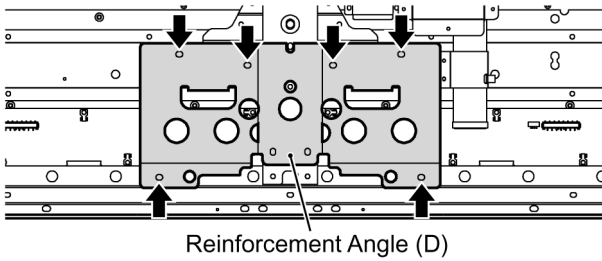
7.34. Removal of C9-Board



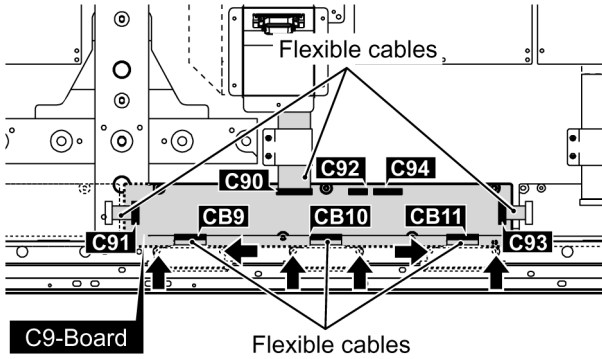
1. Remove 4 screws (↑) and then the Rear Cover Angle (G), (H).
2. Remove 5 screws (↗) and then remove the Rear Cover Angle (D).



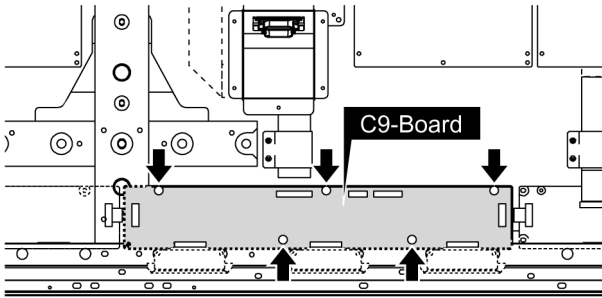
3. Remove 6 screws and then remove the Reinforcement Angle (D).



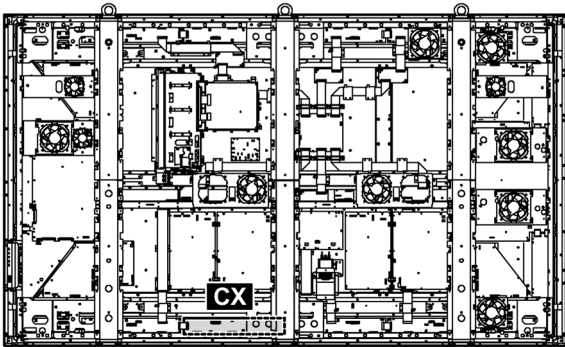
4. Remove 6 screws of the flexible cable.
5. Remove the flexible cables from the connectors (C90, C91, C93, CB9, CB10, CB11).
6. Disconnect the connectors (C92, C94).



7. Remove 5 screws and then remove C9-Board.

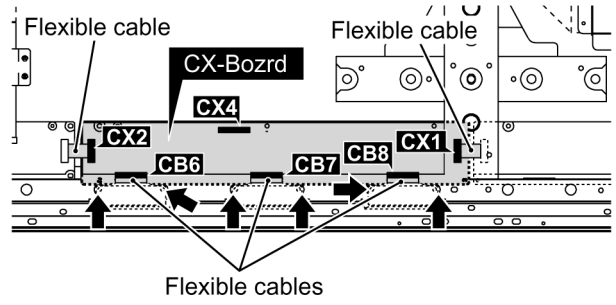


7.35. Removal of CX-Board

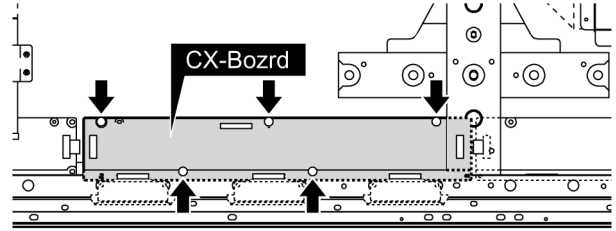


1. Remove the Rear Cover Angle (D), (G), (H).
(Refer to Removal of C9-Board)
2. Remove the Reinforcement Angle (D).
(Refer to Removal of C9-Board)
3. Remove 6 screws of the flexible cable.
4. Remove the flexible cables from the connectors (CB6, CB7, CB8, CX1, CX2).

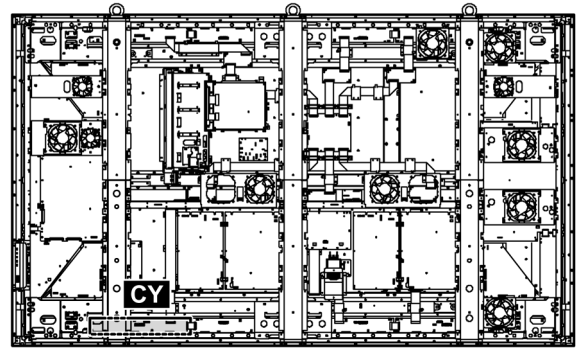
5. Disconnect the connector (CX4).



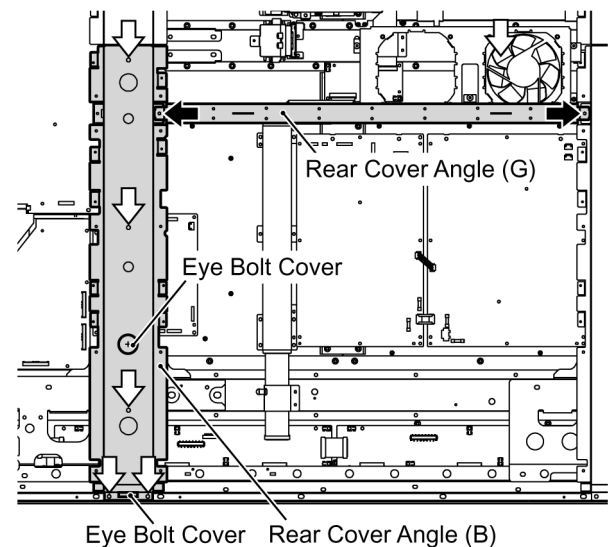
6. Remove 5 screws and then remove CX-Board.



7.36. Removal of CY-Board

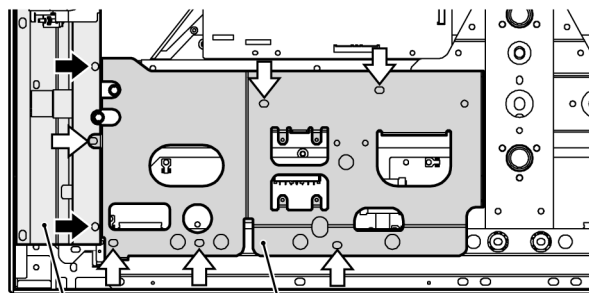


1. Remove 2 screws (⬆) and then the Rear Cover Angle (G).
2. Remove 2 Eye Bolt Covers.
3. Remove 5 screws (⬆) and then remove the Rear Cover Angle (B).



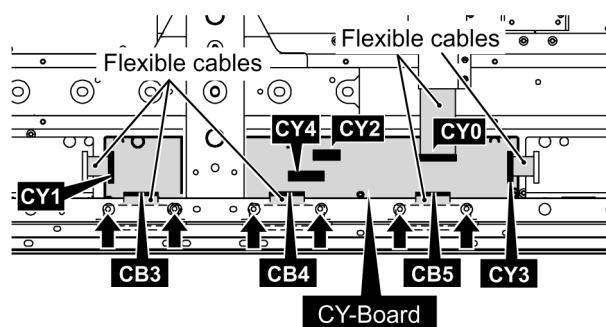
4. Remove 2 screws (⬆) of Side Angle (R).

- Remove 6 screws (⇧) and then remove the Reinforcement Angle (B).

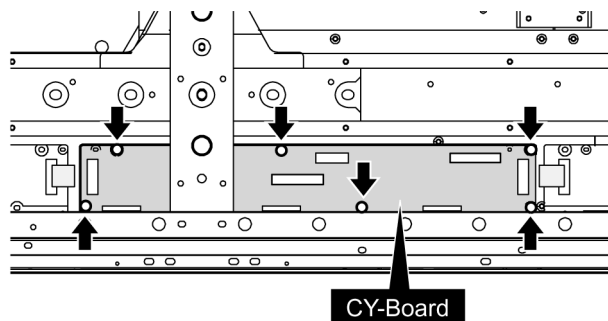


Side Angle (R) Reinforcement Angle (B)

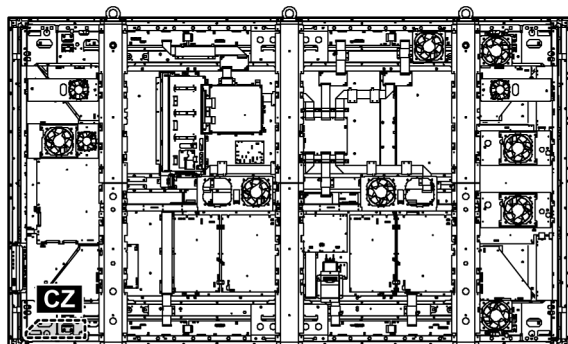
- Remove 6 screws of the flexible cable.
- Remove the flexible cables from the connectors (CB3, CB4, CB5, CY0, CY1, CY3).
- Disconnect the connectors (CY2, CY4).



- Remove 6 screws and then remove CY-Board.

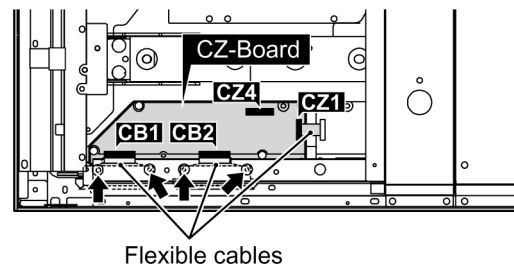


7.37. Removal of CZ-Board



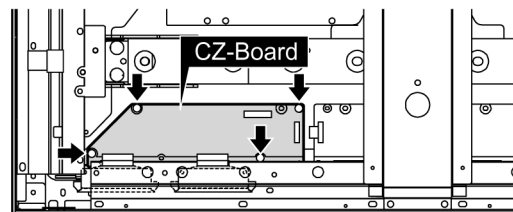
- Remove the Reinforcement Angle (B).
(Refer to Removal of CY-Board)
- Remove 4 screws of the flexible cable.
- Disconnect the connector (CZ4).

- Remove the flexible cables from the connectors (CB1, CB2, CZ1).

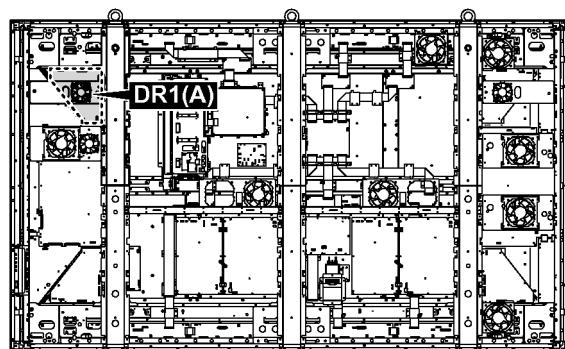


Flexible cables

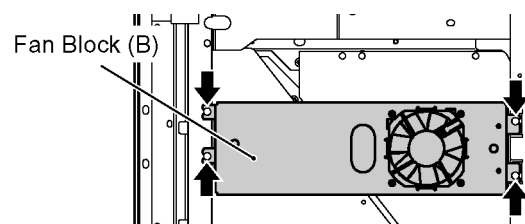
- Remove 4 screws and then remove CZ-Board.



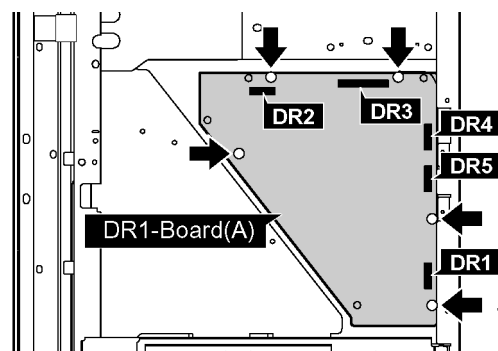
7.38. Removal of DR1-Board (A)



- Disconnect the Fan relay connectors.
- Remove 4 screws and then remove the Fan Block (B).



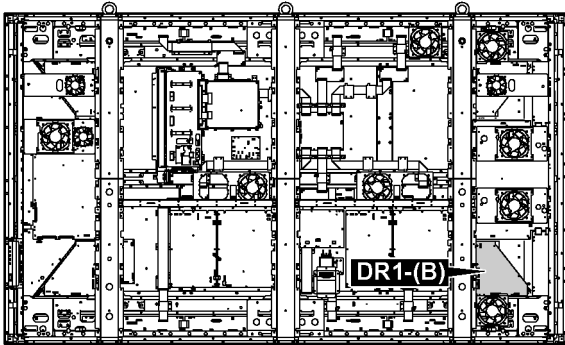
- Disconnect the connectors (DR1, DR2, DR3, DR4, DR5).
- Remove 5 screws and then remove the DR1-Board (A).



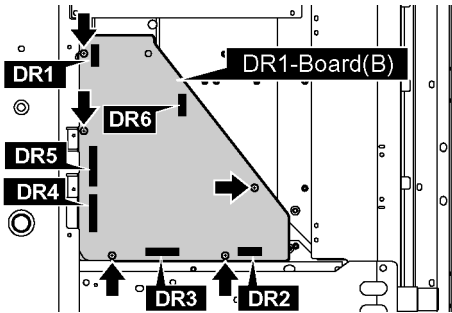
7.39. Removal of DR1-Board (B)

Attaching short jumper to connector (DR6).

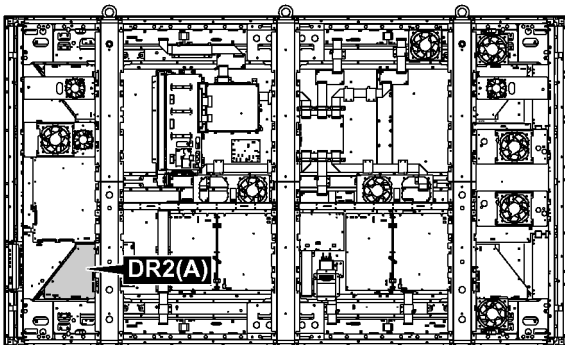
Attach Short Jumper to the connector (DR6) when replacing DR1-Board.



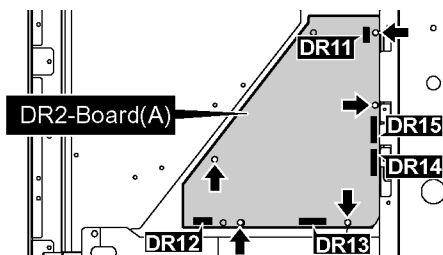
1. Disconnect the connectors (DR1, DR2, DR3, DR4, DR5).
2. Remove 5 screws and then remove DR1-Board (B).
3. Remove Short Jumper attaching to the connector (DR6) on DR1-Board you removed and attach it to the connector (DR6).



7.40. Removal of DR2-Board (A)



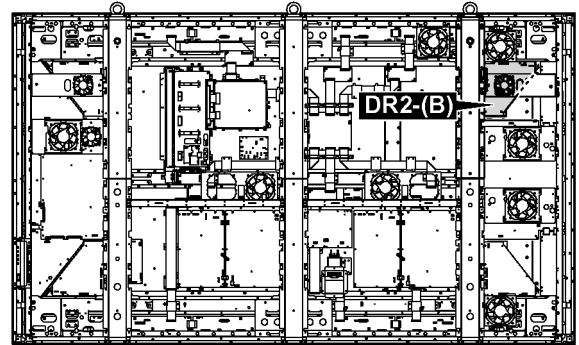
1. Disconnect the connectors (DR11, DR12, DR13, DR14, DR15).
2. Remove 5 screws and then remove DR2-Board (A).



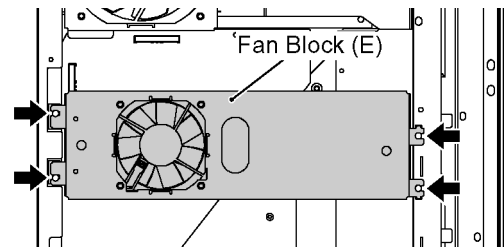
7.41. Removal of DR2-Board (B)

Attaching short jumper to connector (DR16).

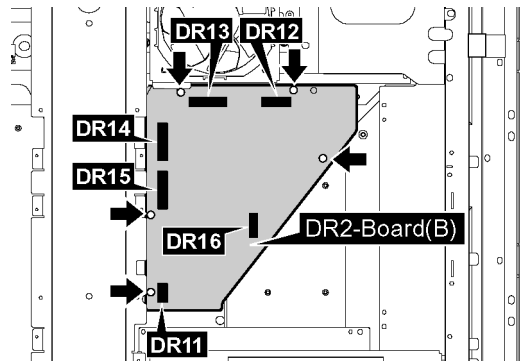
Attach Short Jumper to the connector (DR16) when replacing DR2-Board.



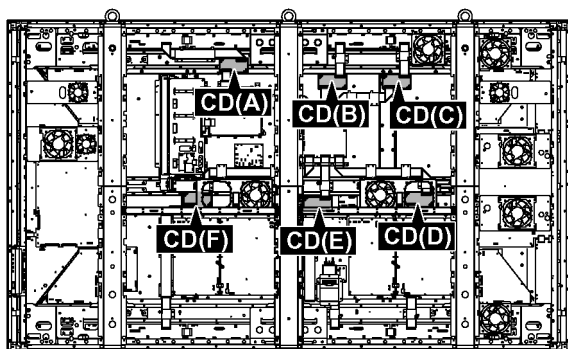
1. Remove 4 screws and then remove Fan Block (E).



2. Disconnect the connectors (DR11, DR12, DR13, DR14, DR15).
3. Remove 5 screws and then remove DR2-Board (B).
4. Remove Short Jumper attaching to the connector (DR16) on DR2-Board you removed and attach it to the connector (DR16).

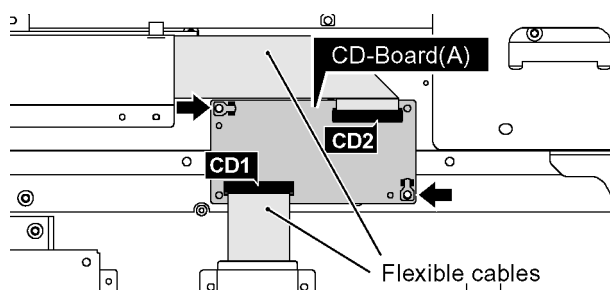


7.42. Removal of CD-Board



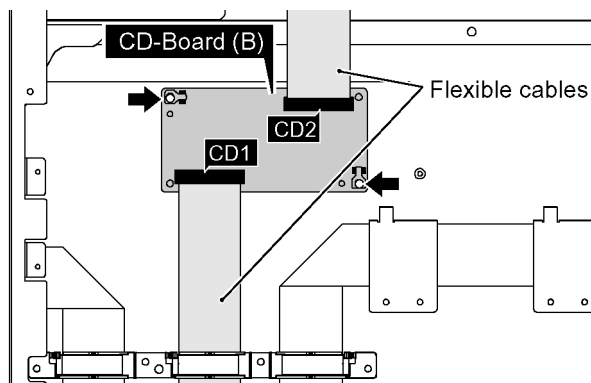
7.42.1. Removal of CD-Board (A)

1. Remove the flexible cables from the connectors (CD1, CD2).
2. Remove 2 screws and then remove CD-Board (A).



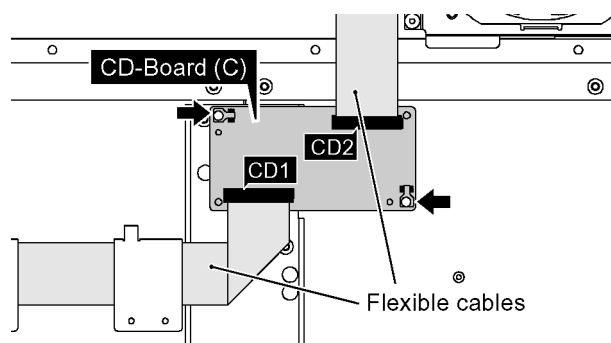
7.42.2. Removal of CD-Board (B)

1. Remove the flexible cables from the connectors (CD1, CD2).
2. Remove 2 screws and then remove CD-Board (B).



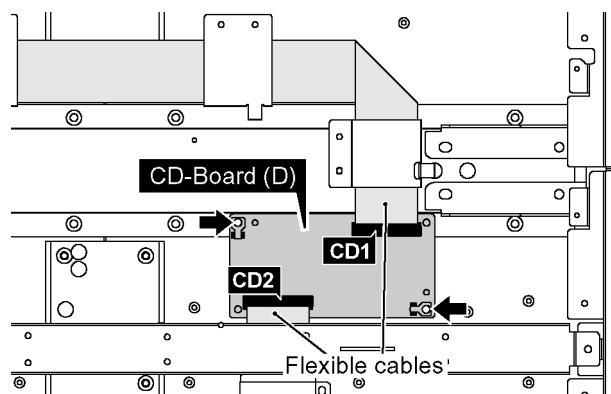
7.42.3. Removal of CD-Board (C)

1. Remove the flexible cables from the connectors (CD1, CD2).
2. Remove 2 screws and then remove CD-Board (C).



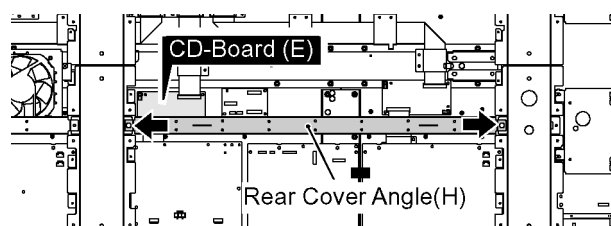
7.42.4. Removal of CD-Board (D)

1. Remove the Fan Block (H).
(Refer to Removal of the Fan)
2. Remove the flexible cables from the connectors (CD1, CD2).
3. Remove 2 screws and then remove CD-Board (D).

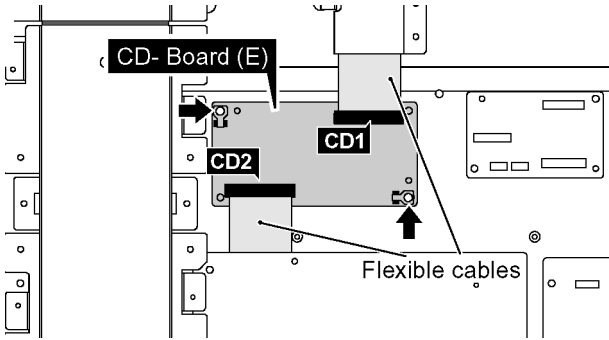


7.42.5. Removal of CD-Board (E)

1. Remove 2 screws and then remove the Rear Cover Angle (H).

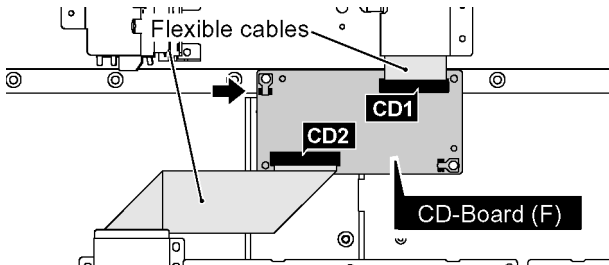


2. Remove the flexible cables from the connectors (CD1, CD2).
3. Remove 2 screws and then remove CD-Board (E).

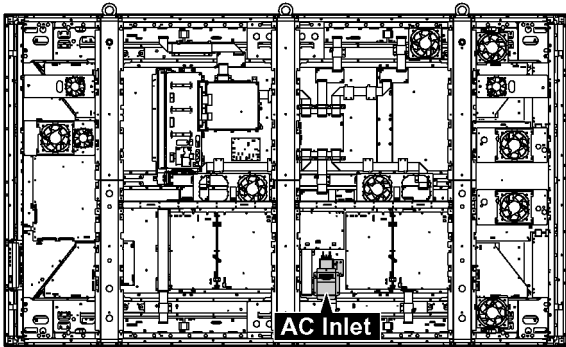


7.42.6. Removal of CD-Board (F)

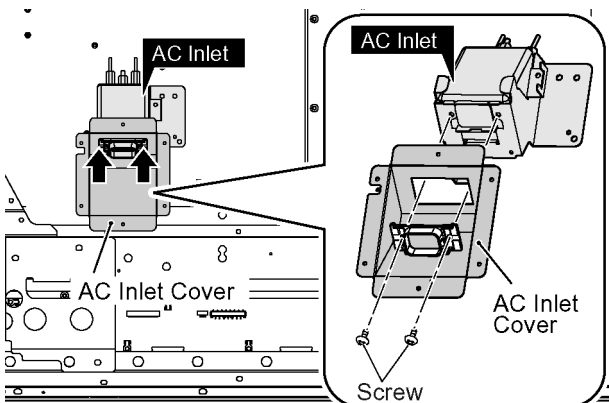
1. Remove the Fan Block (J).
(Refer to Removal of Fan)
2. Remove the flexible cables from the connectors (CD1, CD2).
3. Remove 2 screws and then remove CD-Board (F).



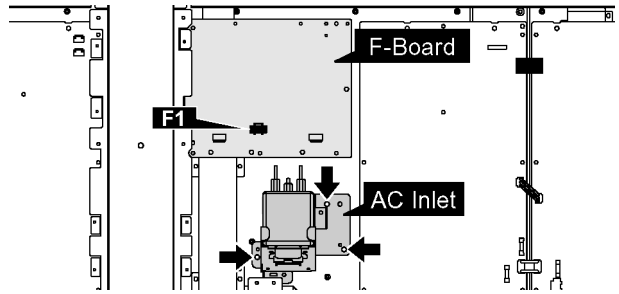
7.43. Removal of AC Inlet



1. Remove 2 screws and then remove the AC Inlet Cover.



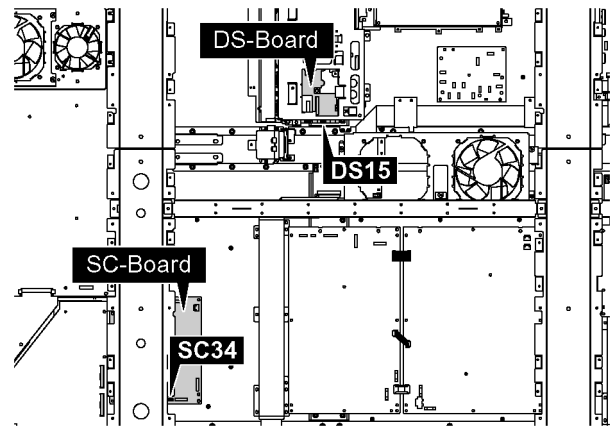
2. Disconnect a connector (F1).
3. Remove 3 screws and then remove the AC-Inlet.



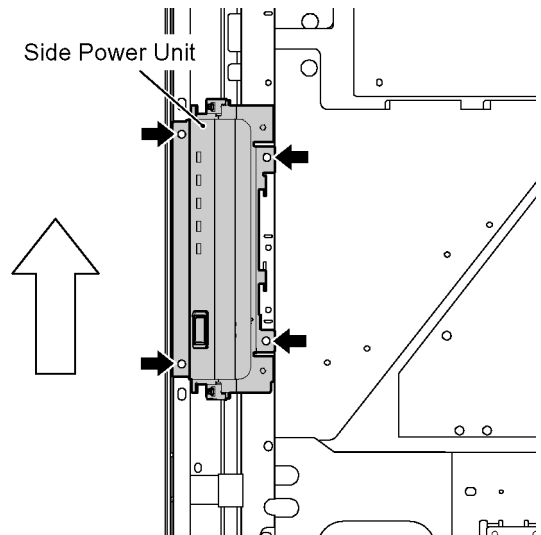
7.44. Removal of Cabinet and Front Glass

7.44.1. Removal of Front Glass

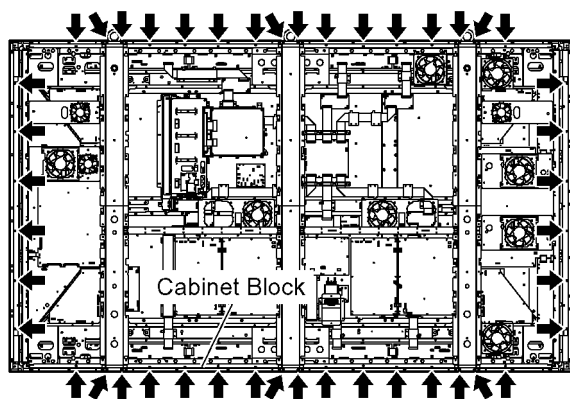
1. Disconnect the connectors (DS15, SC34).



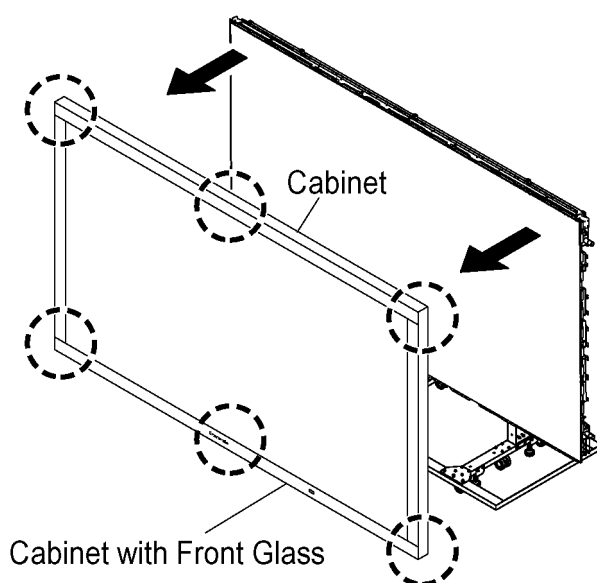
2. Remove 4 screws, and then slide the Side Power Unit upward.
3. Remove the side Power Unit.



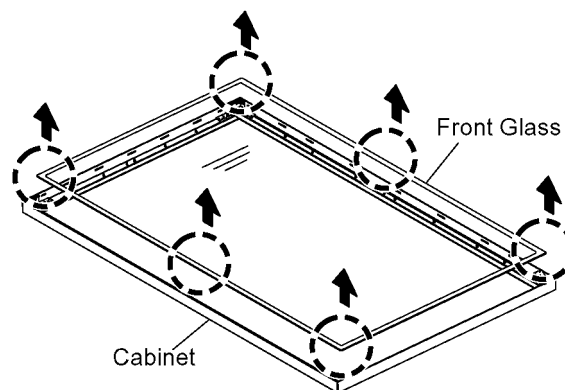
4. Remove 44 screws and then remove cabinet with front glass.

**(Note)**

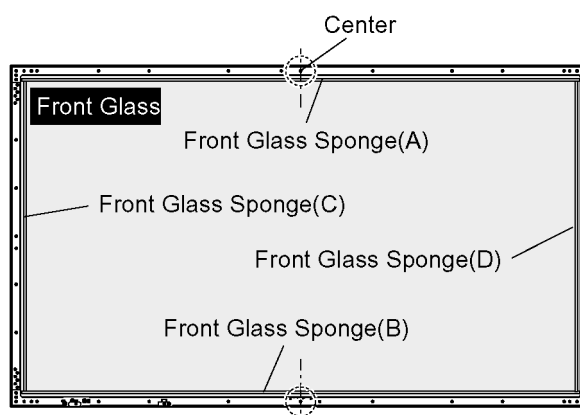
- When removing the Cabinet with Front Glass, take care not to damage the flexible cable of the Plasma Panel circumference.



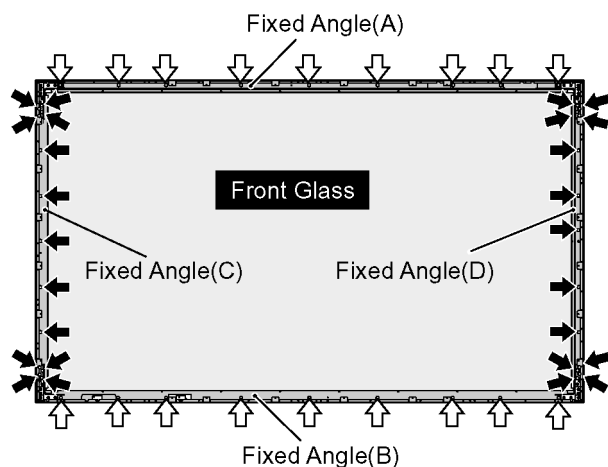
- Be sure to lift the instruction six positions of the figure, when remove the Front Glass.

**Note: When replacing the Front Glass**

- The sponges for the Front Glass cannot be recycled.
- When replacing the Front Glass, use the new sponges.



5. Remove 26 screws (⬆) (left and right side) and 18 screws (⬆) (top and bottom side) and then remove the Fixed Angles (A), (B), (C), (D).
6. Remove the Front Glass.

**(Note)**

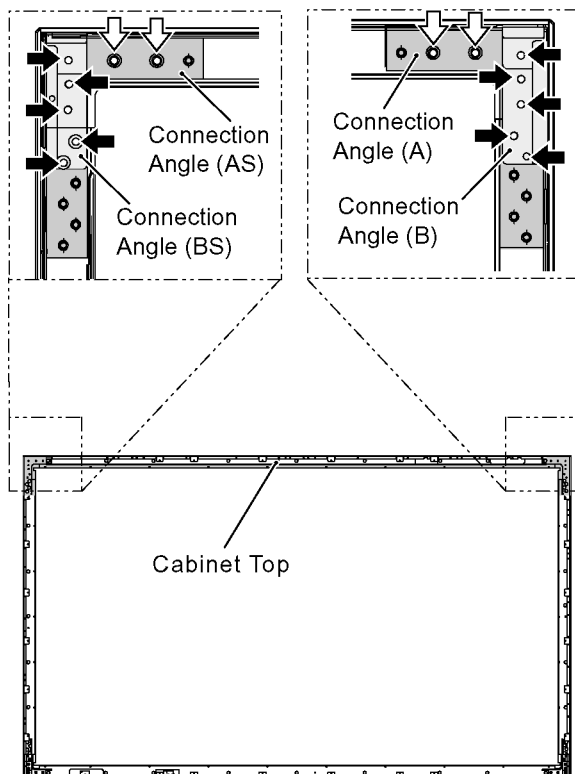
- When removing the Front Glass from Cabinet, there is a risk of the glass center bending damage.

7.44.2. Removal of Cabinet

1. Remove the Front Glass.
(Refer to Removal of Front Glass.)

7.44.2.1. Removeal of Cabinet Top

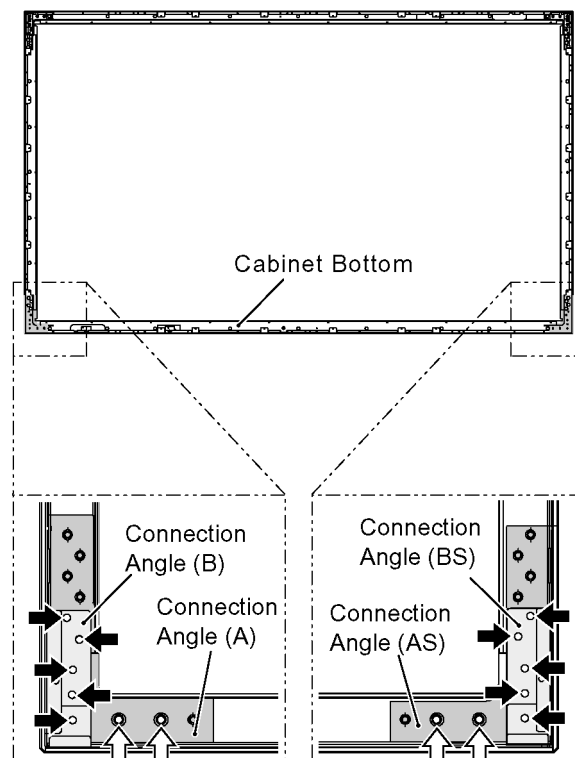
1. Remove each 5 screws (⬆).
2. Remove each 2 screws (⬆) and then remove the Connection Angles (A), (AS), (B), (BS).



3. Remove the Cabinet Top.

7.44.2.2. Removeal of Cabinet Bottom

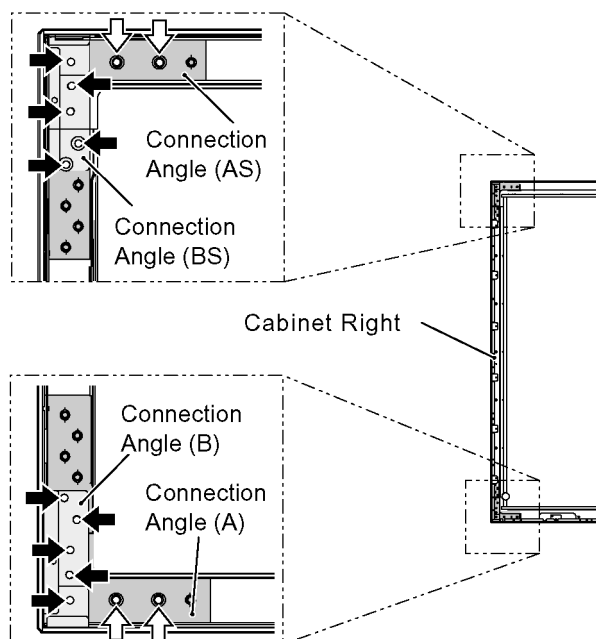
1. Remove each 5 screws (⬆).
2. Remove each 2 screws (⬆) and then remove the Connection Angles (A), (AS), (B), (BS).



3. Remove the Cabinet Bottom.

7.44.2.3. Removeal of Cabinet Right

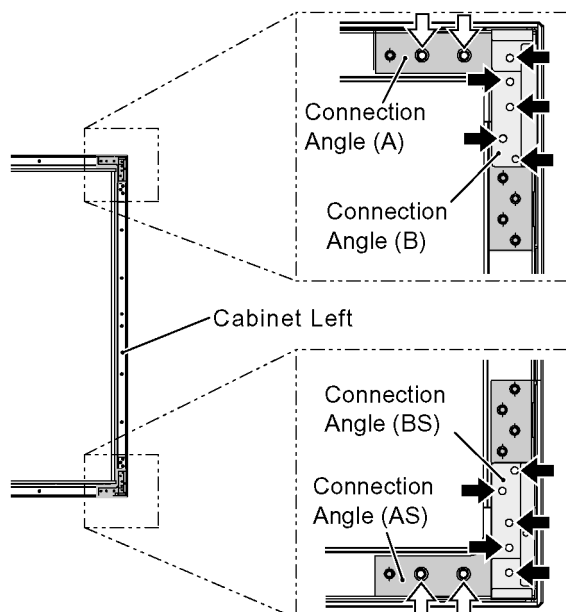
1. Remove each 5 screws (⬆).
2. Remove each 2 screws (⬆) and then remove the Connection Angles (A), (AS), (B), (BS).



3. Remove the Cabinet Right.

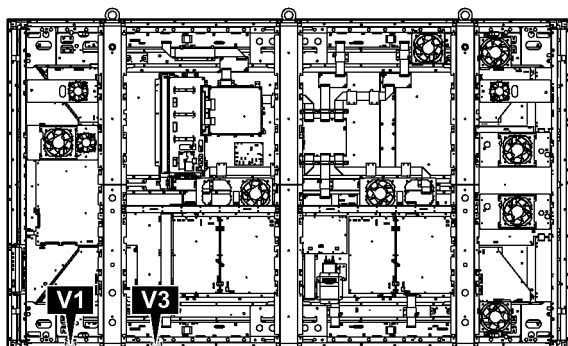
7.44.2.4. Removal of Cabinet Left

1. Remove each 5 screws (▲).
2. Remove each 2 screws (▲) and then remove the Connection Angles (A), (AS), (B), (BS).

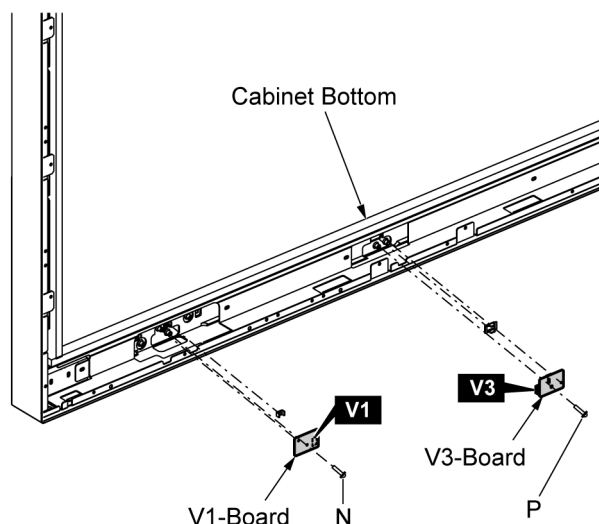


3. Remove the Cabinet Left.

7.45. Removal of V1-Board and V3-Board

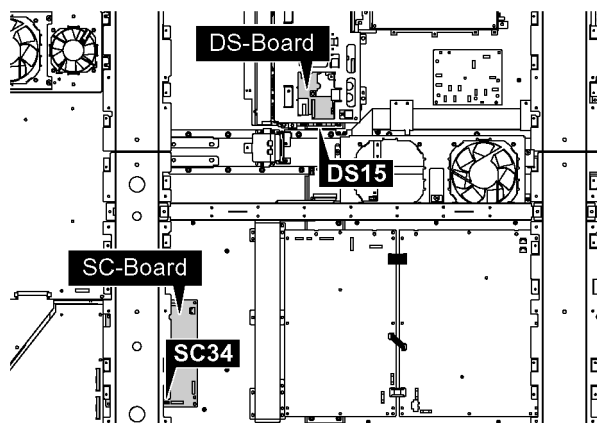


1. Remove the Cabinet.
(Refer to Removal of Cabinet.)
2. Disconnect the connectors (V1).
3. Remove 1 screw (N) and then remove V1-Board.
4. Disconnect the connectors (V).
5. Remove 1 screw (P) and then remove V3-Board.

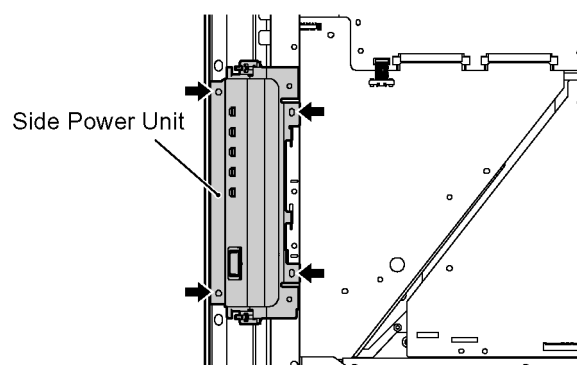


7.46. Removal of Plasma Panel

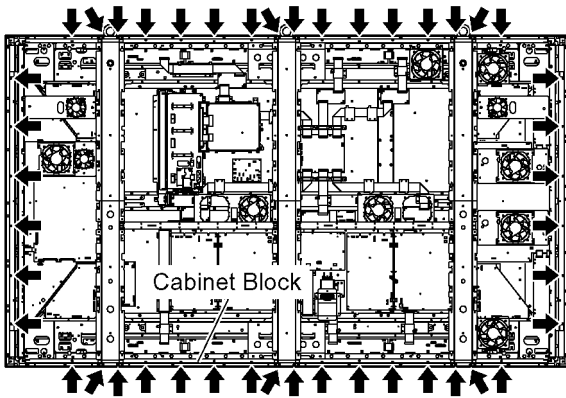
1. Remove the Rear Covers.
(Refer to Removal of Rear Cover.)
2. Disconnect the connectors (DS15, SC34).



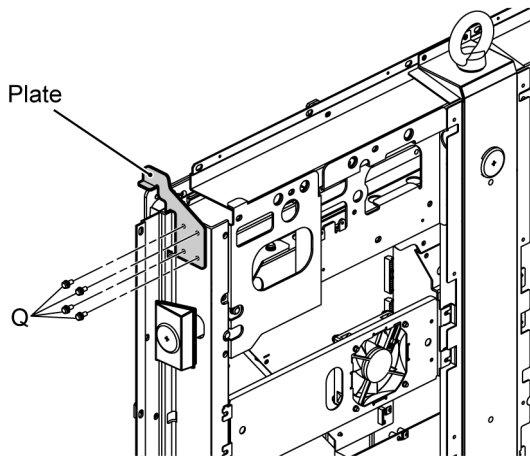
3. Remove 4 screws and then remove the Side Power Unit.



4. Remove 44 screws and then remove cabinet with front glass.
(Refer to Removal of Cabinet.)

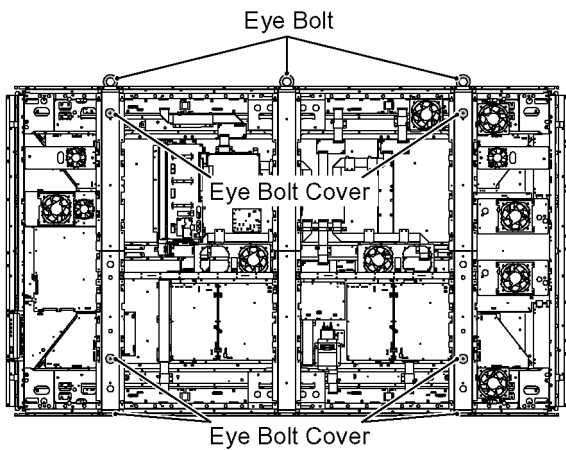


5. Remove 4 screws (Q) of the Plate.



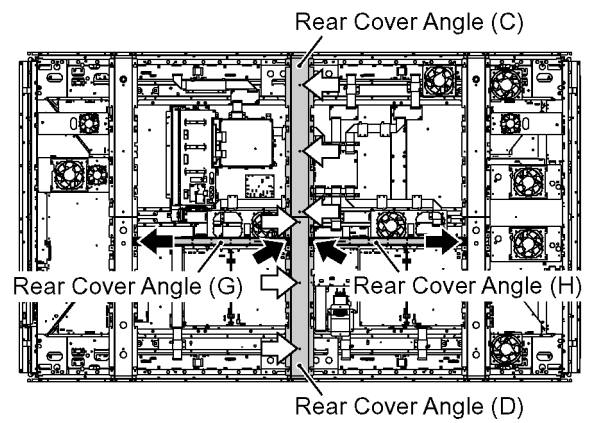
6. Remove 3 Eye Bolts.

7. Remove 6 Eye Bolt Covers.



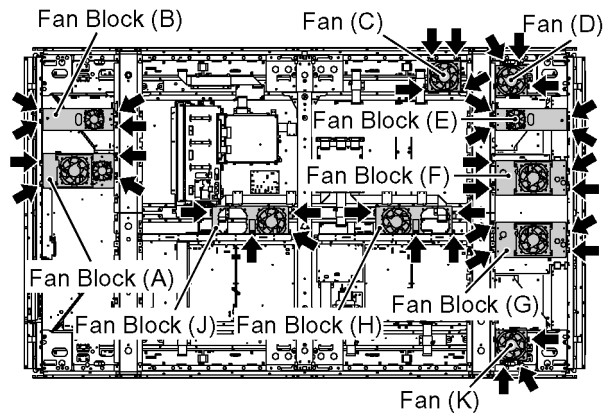
8. Remove 4 screws (↑) and then remove the Rear Cover Angles(G),(H).

9. Remove 6 screws (⇧) and then remove the Rear Cover Angle (C), (D).



10. Disconnect the each Fan relay connectors.

- Remove each 4 screws and then remove the Fan Blocks (A), (B), (E), (F), (G), (H), (J).
- Remove each 4 screws and then remove the Fan (C).
- Remove each 3 screws and then remove the Fan (D),(K).

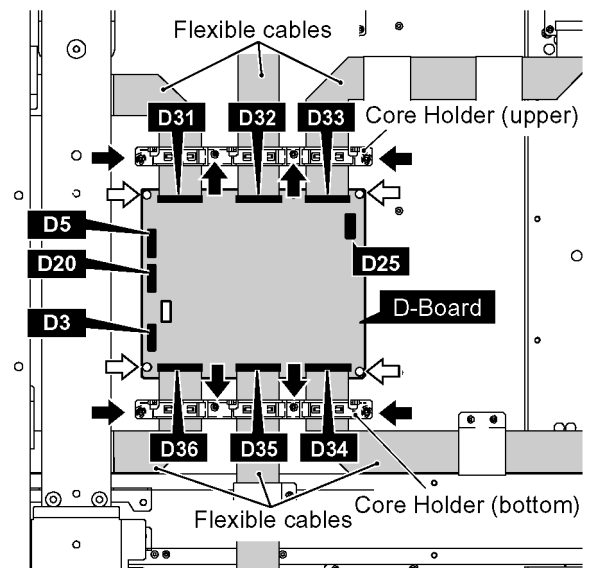


11. Disconnect the connectors (D3, D5, D20, D25).

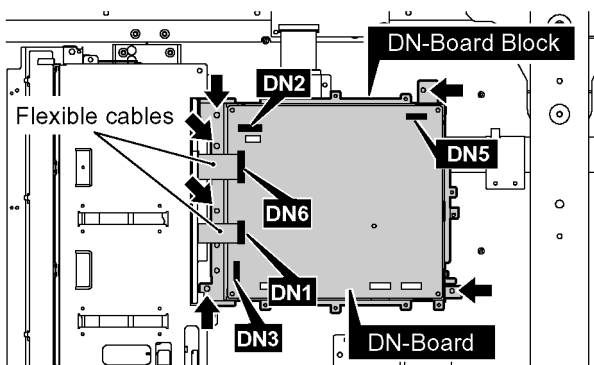
12. Remove the flexible cables from the connectors (D31, D32, D33, D34, D35, D36).

13. Remove 8 screws (↑) and then remove the Core Holder (upper), (bottom).

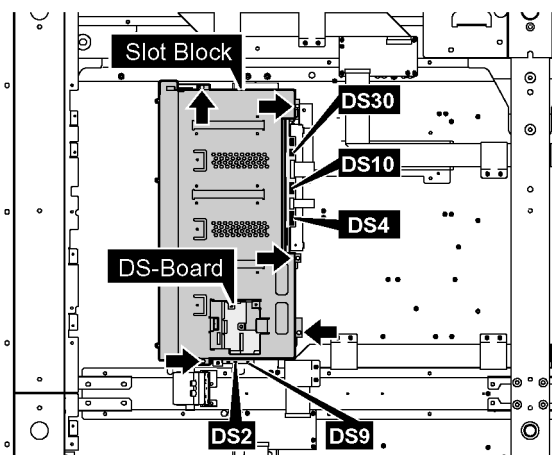
14. Remove 4 screws (⇧) and then remove D-Board.



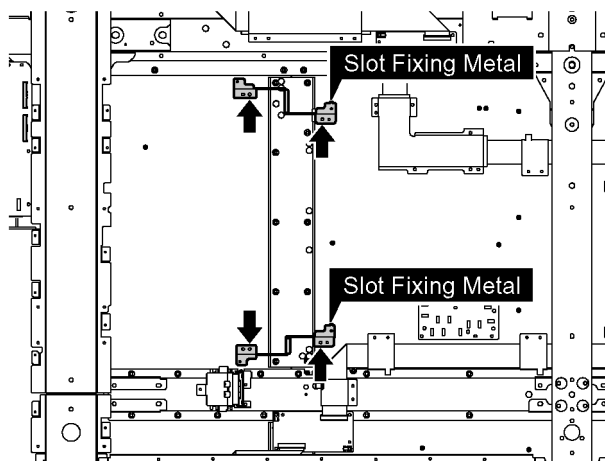
15. Remove the flexible cables from the connectors (DN1, DN6).
16. Disconnect the connectors (DN2, DN3, DN5).
17. Remove 6 screws and then remove DN-Board Block.



18. Disconnect the connectors (DS2, DS4, DS9, DS10, DS30).
19. Remove 5 screws and then remove the Slot Block.

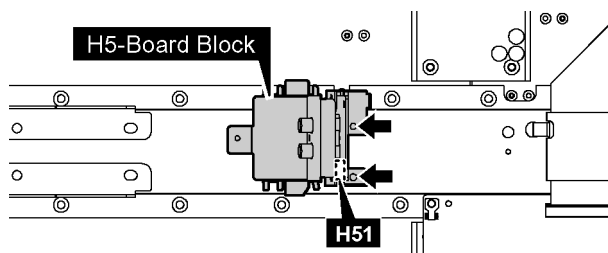


20. Remove 4 screws and then remove the Slot Fixing Metal.

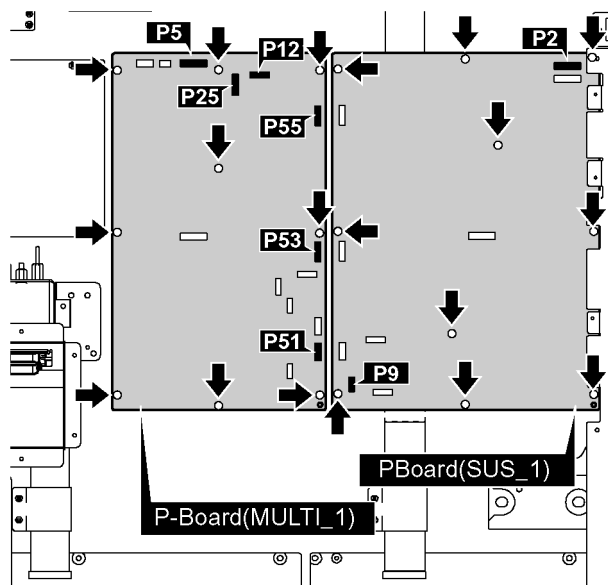


21. Remove 2 screws and then remove H5-Board Block.

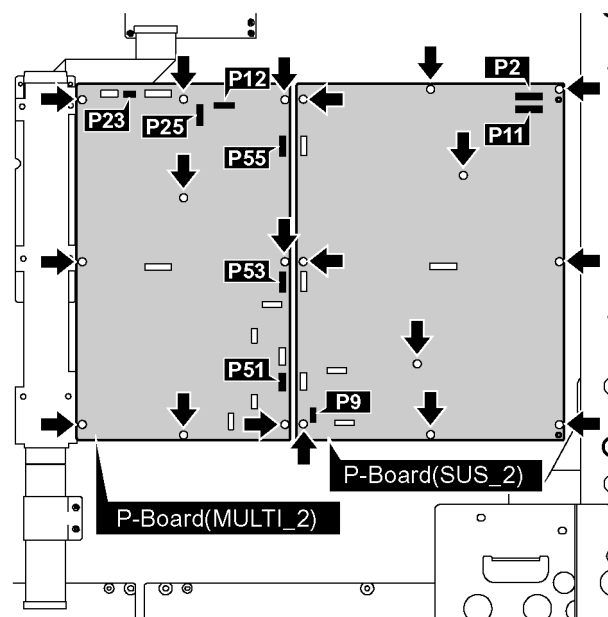
22. Disconnect the connector (H51).



23. Disconnect the connectors (P2, P5, P9, P12, P25, P51, P53, P55).
24. Remove 19 screws and then remove P-Board (MULT_1), (SUS_1).

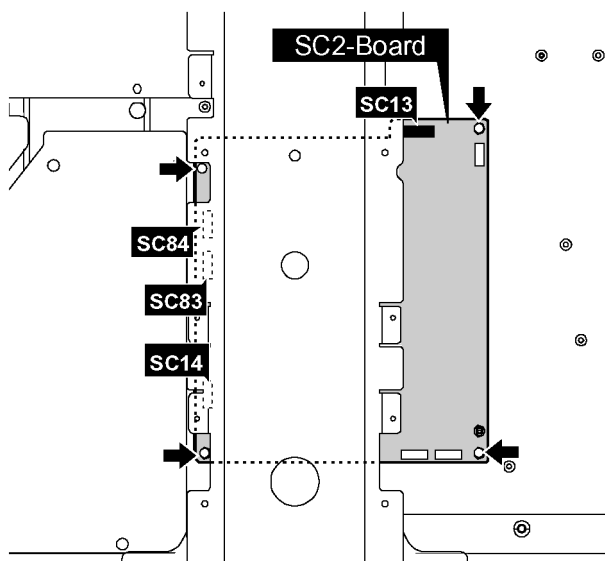


25. Disconnect the connectors (P2, P9, P11, P12, P23, P25, P51, P53, P55).
26. Remove 19 screws and then remove P-Board (MULT_2), (SUS_2).



27. Disconnect the connectors (SC13, SC14, SC34, SC83, SC84).

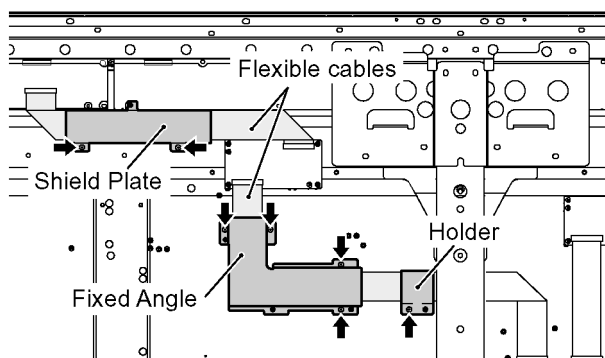
28. Remove 4 screws and then remove SC2-Board.



29. Remove 3 screws and then remove the Shield Plate.

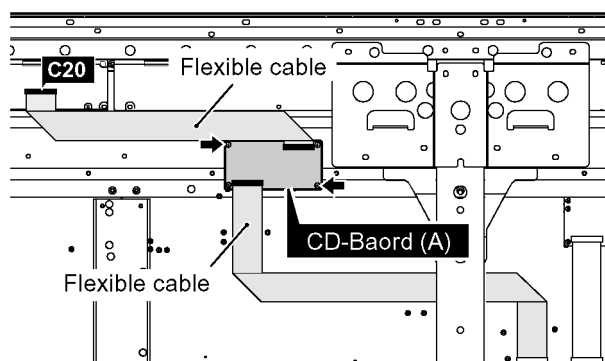
30. Remove 4 screws and then remove the Fixed Angle (shape of L).

31. Remove 1 screw and then remove the Flexible Holder.



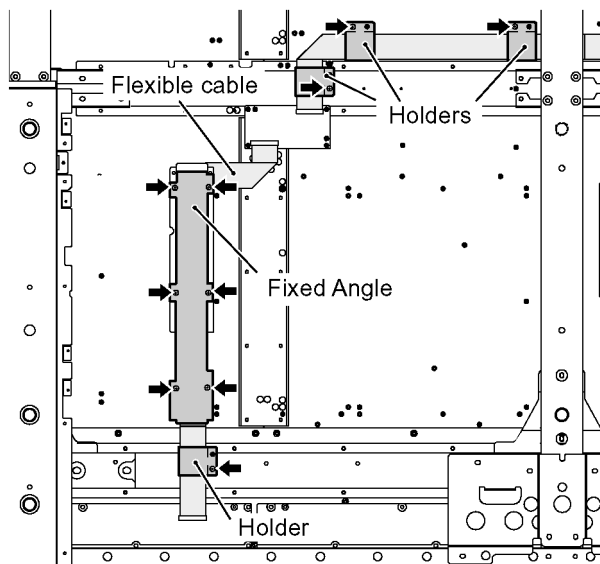
32. Disconnect a connector (C20) connected with C2-Board.

33. Remove 2 screws and then remove CD-Board (A).



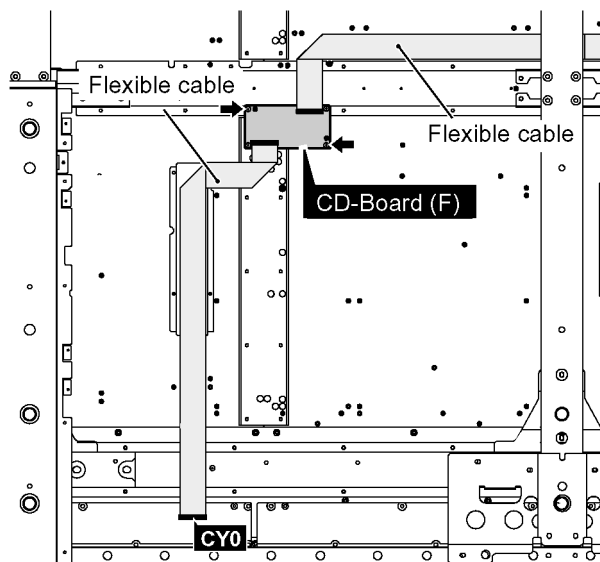
34. Remove each 1 screw of the Flexible Holder and then remove the Flexible Holders (4 places).

35. Remove 6 screws and then remove the Fixed Angle.



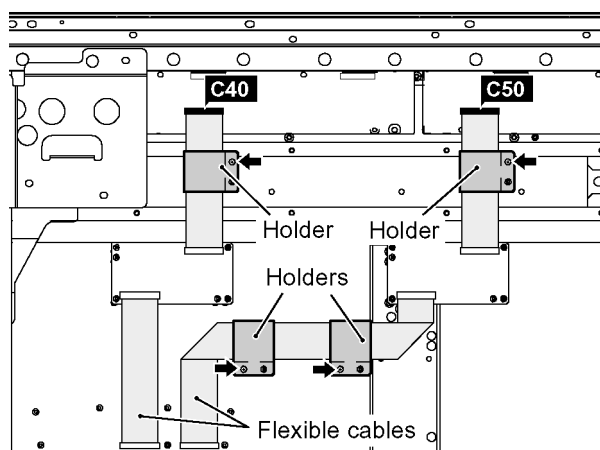
36. Disconnect a connector (CY0) connected with CY-Board.

37. Remove 2 screws and then remove CD-Board (F).

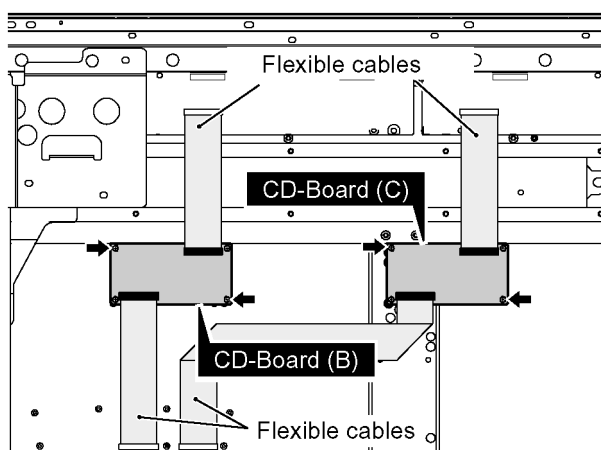


38. Remove each 1 screw and then remove the Flexible Holders (4 places).

39. Remove the flexible cables from the connectors (C40, C50).



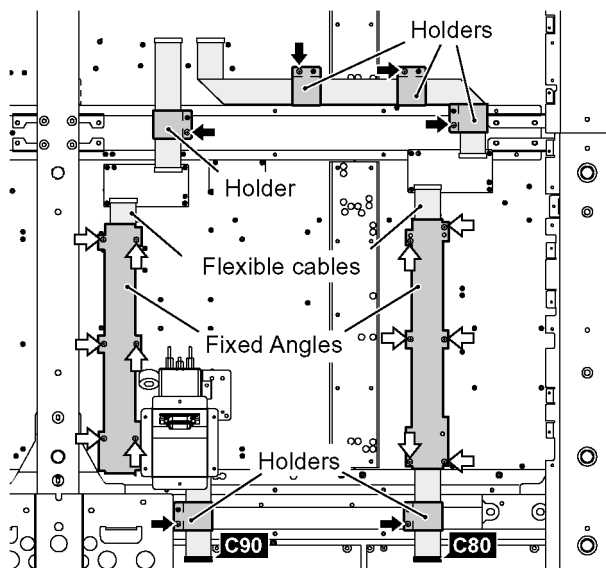
40. Remove 4 screws and then remove CD-Board (B), (C).



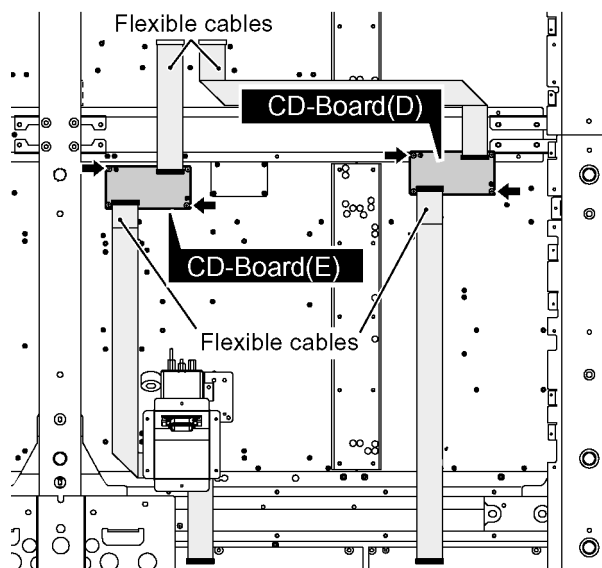
41. Remove each 1 screw (⬆) and then remove the Flexible Holders (6 places).

42. Remove each 6 screws (⬆) and then remove the Fixed Angles (2 places).

43. Remove the flexible cables from the connectors (C80, C90).

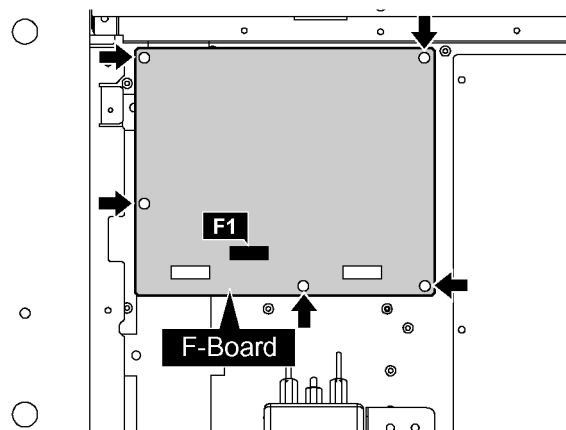


44. Remove 4 screws and then remove CD-Board (D), (E).



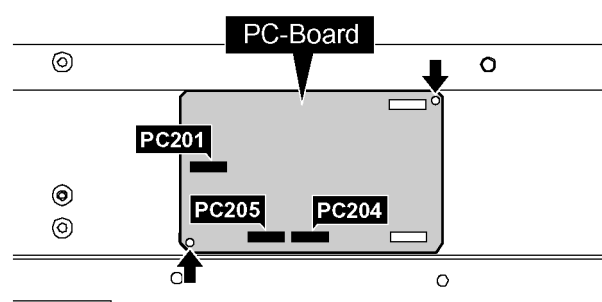
45. Disconnect the connectors (F1).

46. Remove 5 screws and then remove F-Board.

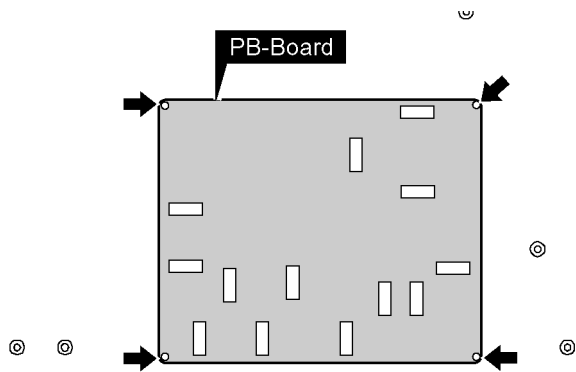


47. Remove the connectors (PC201, PC204, PC205).

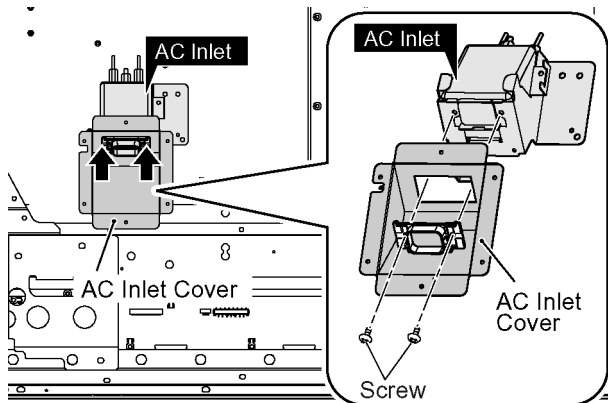
48. Remove 2 screws and then remove PC-Board.



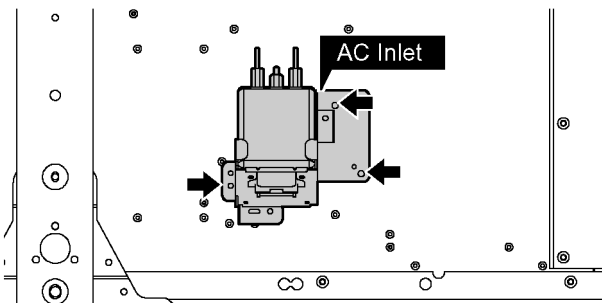
49. Remove the PB-Board.



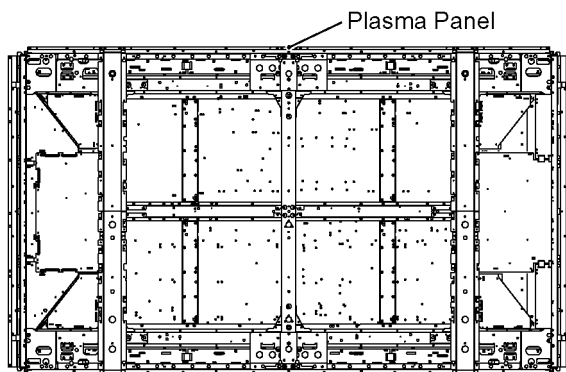
50. Remove 2 screws and then remove AC Inlet Cover.



51. Remove 3 screws and then remove the AC-Inlet.



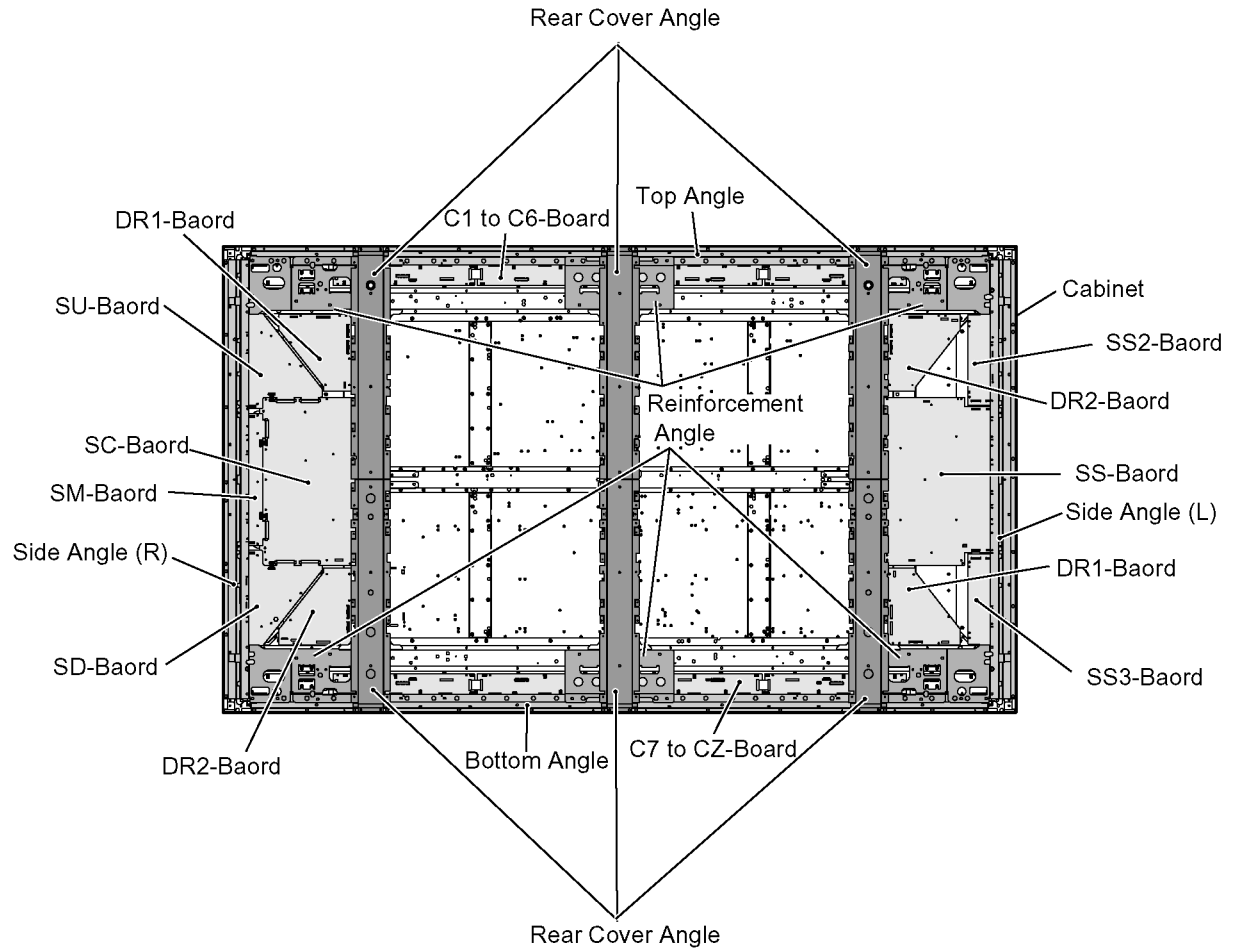
52. Remove the Plasma Panel.



(Note)

- When replacing the Plasma Panel, use a hanging device (machine) such as cranes, because the Plasma Panel is too heavy.

Structure of replacement Plasma Panel (Spare Parts)



8 Measurements and Adjustments

8.1. Adjustment Procedure

8.1.1. Driver Set-up

8.1.1.1. Item / Preparation

1. Set Aging pattern 1 (White pattern) by IIC mode.
2. Set the picture adjustment items as follows.
 - Picture menu : Standard
 - Color temperature : Normal
 - Picture : 25
 - Aspect : Full

Caution

1. First perform Vsus voltage adjustment.
2. Confirmation of Vscn voltage should be performed after confirmation of Vad voltage adjustment.
When Vad = -85V, Voltage of Vscn is 55V $\pm$ 4V.

8.1.1.2. Adjustments

Adjust driver section voltages.

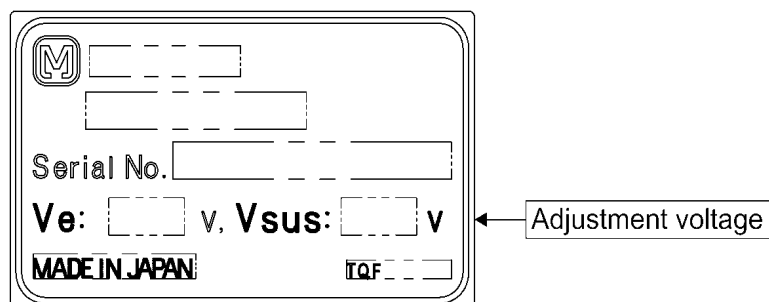
(Refer to the panel data on the panel label)

Check or adjust the following voltages with the multimeter.

Name	Test Point	Voltage	Volume	Remarks
Vsus	TPVSUS (SS)	Vsus $\pm$ 0.5V	VR251 (P_SS side)	*
Vsus	TPVSUS (SC)	Vsus $\pm$ 0.5V	VR251 (P_SC side)	*
Ve	TPVE (SS)	Ve $\pm$ 1V	VR6000 (SS)	*
Ve2	TPVE2 (SS)	5 $\pm$ 1V	(Fixed)	
Vad	TPVAD (SC2)	-85V $\pm$ 1V	VR6600 (SC2)	
Vscn	TPVSCN (SC2)	Vad + 140 $\pm$ 4V	VR6605 (SC2)	
Vset	TPVSET (SC2)	240 $\pm$ 1V	VR6604 (SC2)	
Vset2	TPVSET2 (SC)	Vad + 8 + 1V, -0V	(Fixed) (SC)	
Vbk	TPVBK (SC2)	150 $\pm$ 1V	VR6351 (SC2)	
Vda	TPVDA (DR1)	75 $\pm$ 1V	(Fixed) (P_SC side)	
Vda	TPVDA (DR2)	75 $\pm$ 1V	(Fixed) (P_SC side)	
Vda	TPVDA (DR1)	75 $\pm$ 1V	(Fixed) (P_SS side)	
Vda	TPVDA (DR2)	75 $\pm$ 1V	(Fixed) (P_SS side)	
Vc	TPVC (DR1)	45 $\pm$ 0.5V	VR600 (DR1_SC)	
Vc	TPVC (DR2)	45 $\pm$ 0.5V	VR650 (DR2_SC)	
Vc	TPVC (DR1)	34.5 $\pm$ 0.5V	VR600 (DR1_SS)	
Vc	TPVC (DR2)	34.5 $\pm$ 0.5V	VR650 (DR2_SS)	

*See the Panel label.

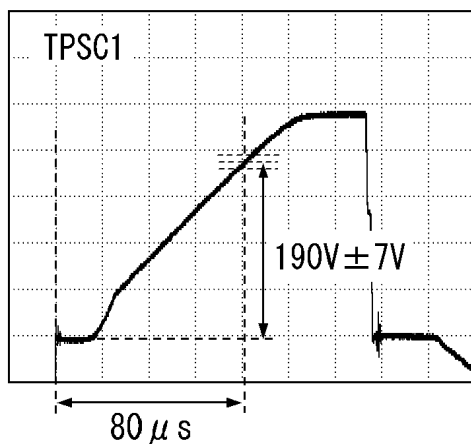
Panel Label information



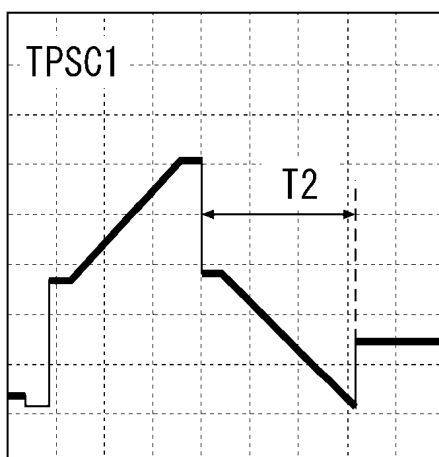
8.1.2. Initialization Pulse Adjust

1. Set Aging pattern 1 (White pattern) by IIC mode.
2. Set the picture adjustment items as follows.
 - Picture menu : Standard
 - Color temperature : Normal
 - Picture : 25
 - Aspect : Full
3. Connect Oscilloscope to TPSC1 and adjust VR6601 for $190V \pm 7V$.
4. Connect Oscilloscope to TPSC1 (T2) and adjust VR6602 for $165 \pm 10\mu\text{Sec}$.

	Test point	Volume	Level
	TPSC1 (SC)	VR6601 (SC)	$190V \pm 7V$
T2	TPSC1 (SC)	VR6602 (SC)	$165 \pm 10\mu\text{Sec}$



[V] 50V/div
[H] $20 \mu s/\text{div}$



[V] 100V/div
[H] $50 \mu s/\text{div}$

8.1.3. P.C.B. (Print Circuit Board) Replacement

8.1.3.1. Caution

1. To remove P.C.B., wait 1 minute after power was off for discharge from electrolysis capacitors.

8.1.3.2. Quick adjustment after P.C.B. Replacement

Adjust the following voltages with the multimeter.

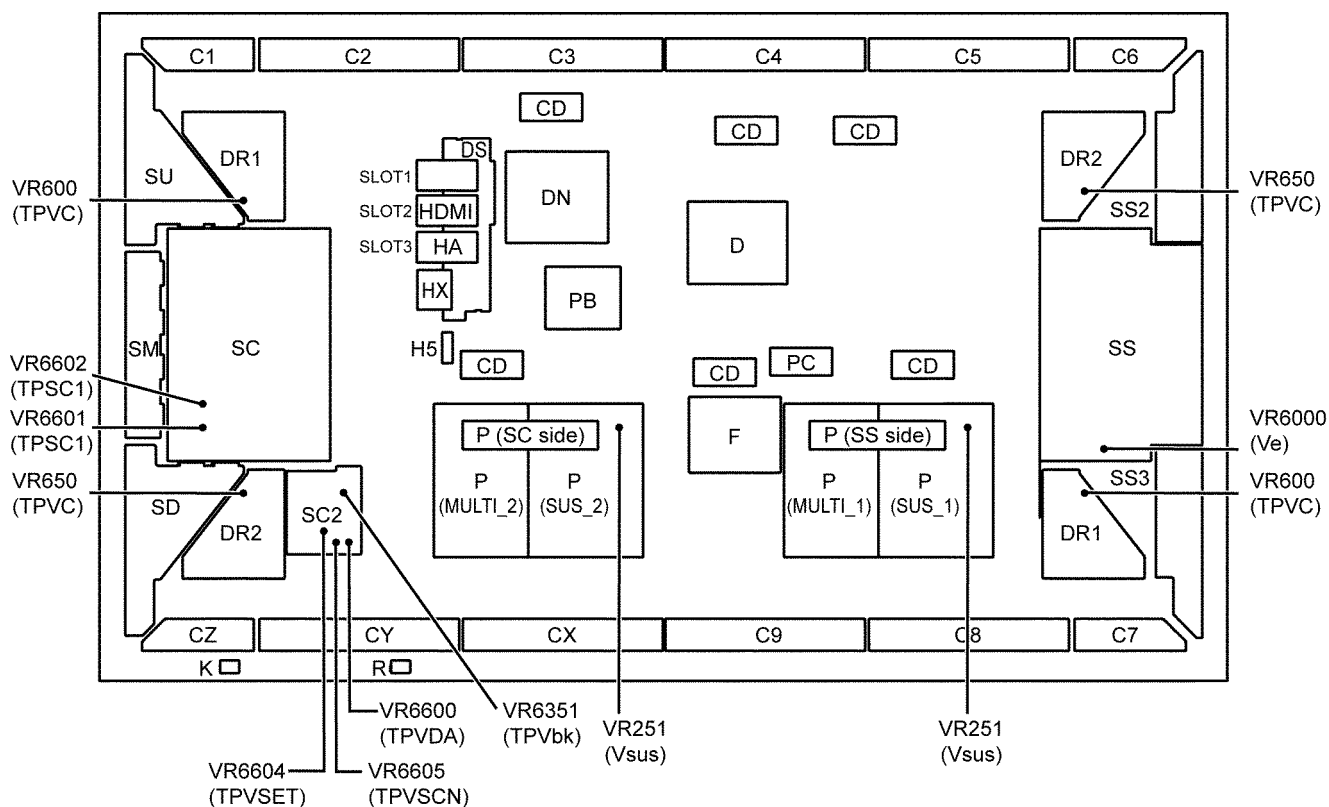
P.C.B.	Name	Test Point	Voltage	Volume	Remarks
P Board (SUS)	Vsus	TPVSUS (SS)	Vsus ± 0.5V	VR251 (P_SS side)	*
	Vsus	TPVSUS (SC)	Vsus ± 0.5V	VR251 (P_SC side)	*
SC2 Board	Vad	TPVAD (SC2)	-85V ± 1V	VR6600 (SC2)	
	Vscn	TPVSCN (SC2)	Vad + 140V ± 4V	VR6605 (SC2)	
	Vset	TPVSET (SC2)	240V ± 1V	VR6604 (SC2)	
	Vbk	TPVBK (SC2)	150V ± 1V	VR6351 (SC2)	
SS Board	Ve	TPVE (SS)	Ve ± 1V	VR6000 (SS)	*
DR1 Board	Vc	TPVC (DR1)	45 ± 0.5V	VR600 (SC side)	
			34.5 ± 0.5V	VR600 (SS side)	
DR2 Board	Vc	TPVC (DR2)	45 ± 0.5V	VR650 (SC side)	
			34.5 ± 0.5V	VR650 (SS side)	
D, DS Board	White balance and Sub brightness for NTSC, PAL, HD, PC and 625i signals				
DN Board	Set Market Select Number to correct destination by Ms mode (See chap. 6.1.4)				

*See the Panel label.

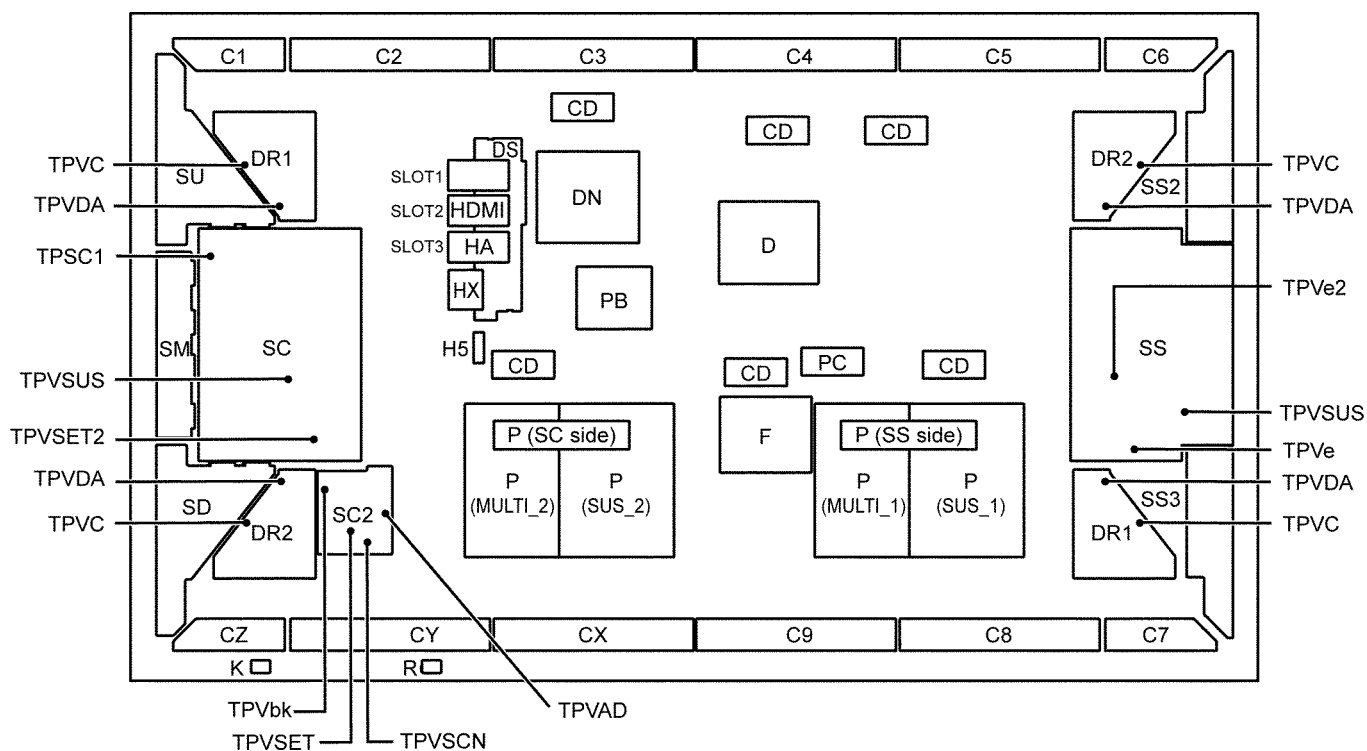
Caution:

Absolutely do not reduce Vsus voltage below Ve not to damage the P.C.B.

8.1.4. Adjustment Volume Location



8.1.5. Test Point Location



8.2. Adjustment

8.2.1. RGB white balance adjustment

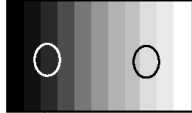
Instrument Name	Connection	Remarks												
• RGB VGA W / B pattern • Color analyzer (Minolta CA-100 or equivalent)	PC input Panel surface	User setting: Normal (Picture menu: Standard)												
Procedure	Remarks													
• Ensure aging is adequate. • Make sure the front panel to be used on the final set is fitted. • Make sure a color signal is not being shown before adjustment. • Put the color analyzer where there is little color variation. 1. Set COMPONENT / RGB-IN SELECT to RGB. 2. Select the IIC mode "PANEL W / B Adj." item. 3. Check that the color temperature is "COOL (High)". 4. Output a white balance pattern. 5. Touch the signal receiver of color analyzer to the highlight window's center. 6. Fix G drive at E0h and adjust B drive and R drive so x, y become the "Color temperature High" in the below table. 7. Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. 8. Set color temperature to "NORMAL (Medium)". 9. Fix G drive at E0h and adjust B drive and R drive so the highlight window's x, y becomes the "Color temperature Medium" in the below table. 10. Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. 11. Set color temperature to "WARM (Low)". 12. Set G drive to E0h and adjust B drive and R drive so the highlight window's x, y become the "Color temperature Low" shown in the below table. 13. Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. 14. Copy the R drive, G drive and B drive data in NTSC, PAL DVI region. Table 1 W/B adjustment values <table border="1"> <thead> <tr> <th>Color temperature</th><th>x</th><th>y</th></tr> </thead> <tbody> <tr> <td>High</td><td>0.276</td><td>0.276</td></tr> <tr> <td>Medium</td><td>0.288</td><td>0.296</td></tr> <tr> <td>Low</td><td>0.313</td><td>0.329</td></tr> </tbody> </table> Adjustment target Hi-light: $x \pm 0.003$ $y \pm 0.003$ Hi-light is target of the number at drive adjustment in the hi-light windows. Therefore, it is not target of the hi-light number at after adjustment white balance.	Color temperature	x	y	High	0.276	0.276	Medium	0.288	0.296	Low	0.313	0.329	Picture Menu: Standard Picture: 25 Aspect: Full Position and size: Normal • Highlight section Signal amplitude 75% RGB VGA W/B Pattern  High light 75% Low light 15% • Cutoff standard G: 80h • Drive standard G: E0h	
Color temperature	x	y												
High	0.276	0.276												
Medium	0.288	0.296												
Low	0.313	0.329												

Table 2 Drive data addresses (PC/RGB)

Color temperature	R	G	B
High	A0-11AD	A0-11AE	A0-11AF
Medium	A0-11B0	A0-11B1	A0-11B2
Low	A0-11B3	A0-11B4	A0-11B5

Table 3 Drive data addresses (NTSC)

Color temperature	R	G	B
High	A0-1180	A0-1181	A0-1182
Medium	A0-1183	A0-1184	A0-1185
Low	A0-1186	A0-1187	A0-1188

Table 4 Drive data addresses (PAL)

Color temperature	R	G	B
High	A0-1189	A0-118A	A0-118B
Medium	A0-118C	A0-118D	A0-118E
Low	A0-118F	A0-1190	A0-1191

Table 5 Drive data addresses (DVI)

Color temperature	R	G	B
High	A0-11B6	A0-11B7	A0-11B8
Medium	A0-11B9	A0-11BA	A0-11BB
Low	A0-11BC	A0-11BD	A0-11BE

8.2.2. HD white balance adjustment

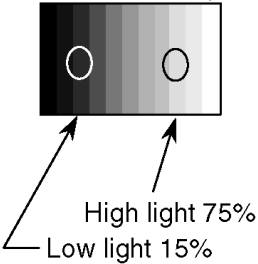
Instrument Name	Connection	Remarks												
- HD W / B pattern (COMPONENT Output) - Color analyzer (Minolta CA-100 or equivalent)	PC input	User setting: Normal												
	Panel surface	(Picture menu: Standard)												
Procedure		Remarks												
- Ensure aging is adequate. - Make sure the front panel to be used on the final set is fitted. - Make sure a color signal is not being shown before adjustment. - Put the color analyzer where there is little color variation. - Set COMPONENT / RGB-IN SELECT to COMPONENT - Select the IIC mode "PANEL W / B Adj." item. - Check that the color temperature is "COOL (High)". - Output a white balance pattern. - Touch the signal receiver of color analyzer to the highlight window's center. - Fix G drive at E0h and adjust B drive and R drive so x, y become the "Color temperature High" in the below table. - Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. - Set color temperature to "NORMAL (Medium)". - Fix G drive at E0h and adjust B drive and R drive so the highlight window's x, y becomes the "Color temperature Medium" in the below table. - Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. - Set color temperature to "WARM (Low)". - Set G drive to E0h and adjust B drive and R drive so the highlight window's x, y become the "Color temperature Low" shown in the below table. - Increase R / G / B together so the maximum drive value in R / G / B becomes FCh. - Copy the R drive, G drive and B drive data in YUV1_525ip, YUV3_625ip region. Table 6 W/B adjustment values <table border="1"> <thead> <tr> <th>Color temperature</th><th>x</th><th>y</th></tr> </thead> <tbody> <tr> <td>High</td><td>0.276</td><td>0.276</td></tr> <tr> <td>Medium</td><td>0.288</td><td>0.296</td></tr> <tr> <td>Low</td><td>0.313</td><td>0.329</td></tr> </tbody> </table> Adjustment target Hi-light: $x \pm 0.003$ $y \pm 0.003$ Hi-light is target of the number at drive adjustment in the hi-light windows. Therefore, it is not target of the hi-light number at after adjustment white balance.	Color temperature	x	y	High	0.276	0.276	Medium	0.288	0.296	Low	0.313	0.329		Picture Menu: Standard Picture: 25 Aspect: Full Position and size: Normal - Highlight section Signal amplitude 75% HD W/B Pattern (COMPONENT Output)  - Cutoff standard G: 80h - Drive standard G: E0h
Color temperature	x	y												
High	0.276	0.276												
Medium	0.288	0.296												
Low	0.313	0.329												

Table 7 Drive data addresses (YUV2_HD)

Color temperature	R	G	B
High	A0-119B	A0-119C	A0-119D
Medium	A0-119E	A0-119F	A0-11A0
Low	A0-11A1	A0-11A2	A0-11A3

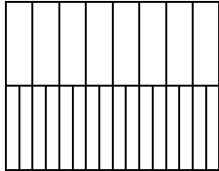
Table 8 Drive data addresses (YUV1_525ip)

Color temperature	R	G	B
High	A0-1192	A0-1193	A0-1194
Medium	A0-1195	A0-1196	A0-1197
Low	A0-1198	A0-1199	A0-119A

Table 9 Drive data addresses (YUV3_625ip)

Color temperature	R	G	B
High	A0-11A4	A0-11A5	A0-11A6
Medium	A0-11A7	A0-11A8	A0-11A9
Low	A0-11AA	A0-11AB	A0-11AC

8.2.3. Power control adjustment

Instrument Name	Connection	Remarks
• PC (RGB) signal generator (Leader: VGA / No.9 signal) • Wattmeter	• PC input • Connect the AC power of the adjustment set to the wattmeter.	Set "RGB" at 'COMPONENT / RGB-IN SELECT' in Setup Menu.
Procedure		Remarks
[condition] • Make sure the set is aged for 30 minutes or more before adjustment. • Voltage 240V 50 / 60Hz (variation within 1%) • Volume at minimum and screen size at full • PC input and picture menu at normalized Dynamic 1. Connect the set's AC power to the wattmeter. 2. Receive the VGA No.9 signal from Leader. 3. Select the PWRCTL item in Panel APL / ABL in the IIC mode. 4. Adjust PWRCTL so the set's power consumption is description below. Adjust to shift large to small for DAC. Factory adjustment with OSD 1350+10W / -30W BUSCON without OSD 1350+10W / -30W		 No.9 Signal Top half: Full color bar Bottom half: Horizontal 16 steps bar Notes: 1. When passing through factory adjustment mode, the power few watts which goes down is the consideration being completed. 2. Adjust the large number for DAC when they have 2 adjustment points.

9 Block Diagram

9.1. DiagramNote

Important Safety Notice

Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacture's specified parts.

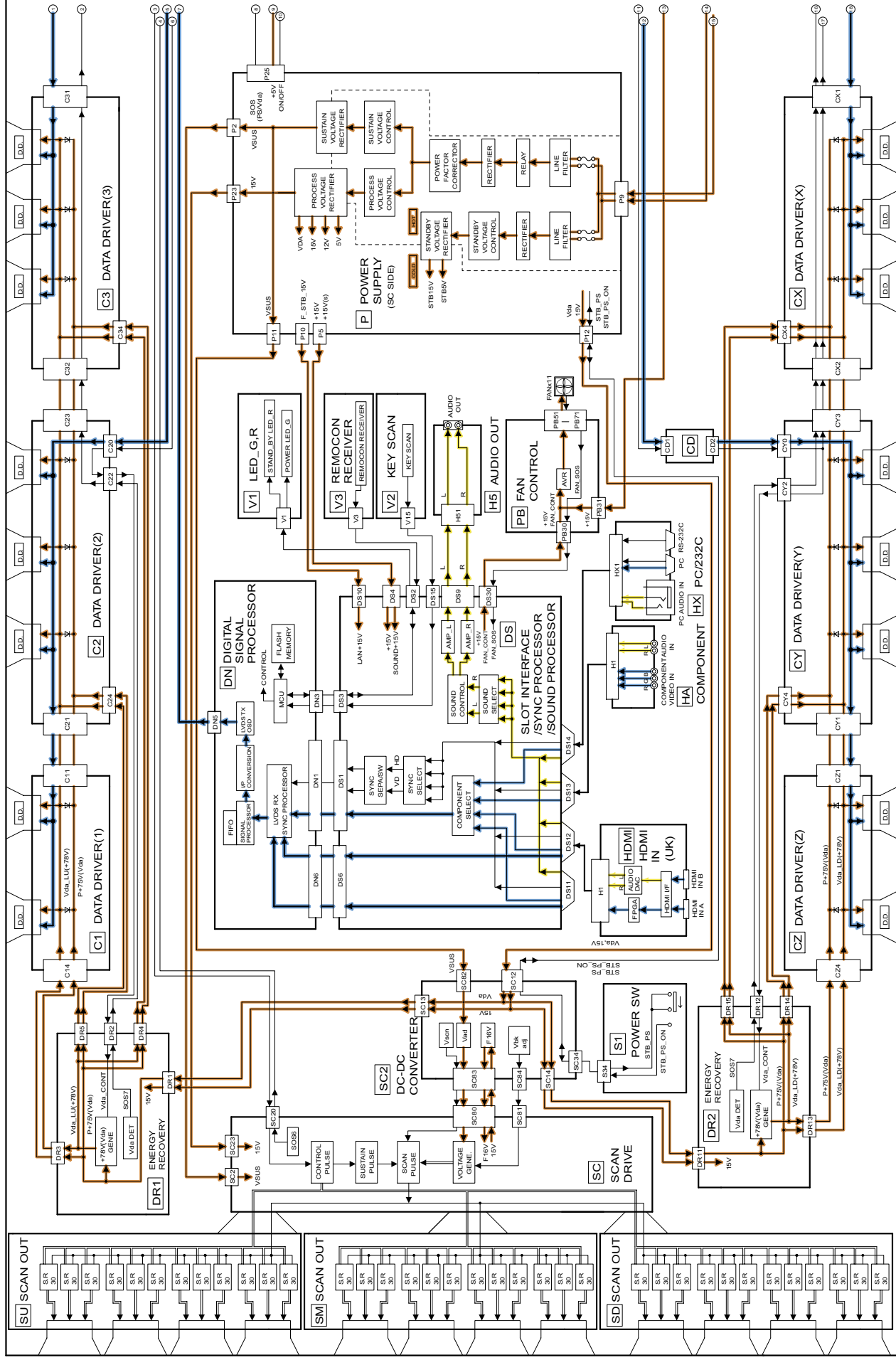
Notes:

- Resistor**
Unit of resistance is OHM [Ω] (K=1,000, M=1,000,000).
- Capacitor**
Unit of capacitance is μ F, unless otherwise noted.
- Coil
Unit of inductance is H, unless otherwise noted.
- Test Point
 : Test Point position
- Earth Symbol
 : Chassis Earth (Cold)  : Line Earth (Hot)
- Voltage Measurement
Voltage is measured by a DC voltmeter.
Conditions of the measurement are the following:
Power Source AC220-240V, 50/60Hz
Receiving Signal Colour Bar signal (RF)
All customer's controls Maximum positions
- When arrow mark () is found, connection is easily found from the direction of arrow.
- Indicates the major signal flow.  : Video  : Audio
- This schematic diagram is the latest at the time of printing and subject to change without notice.

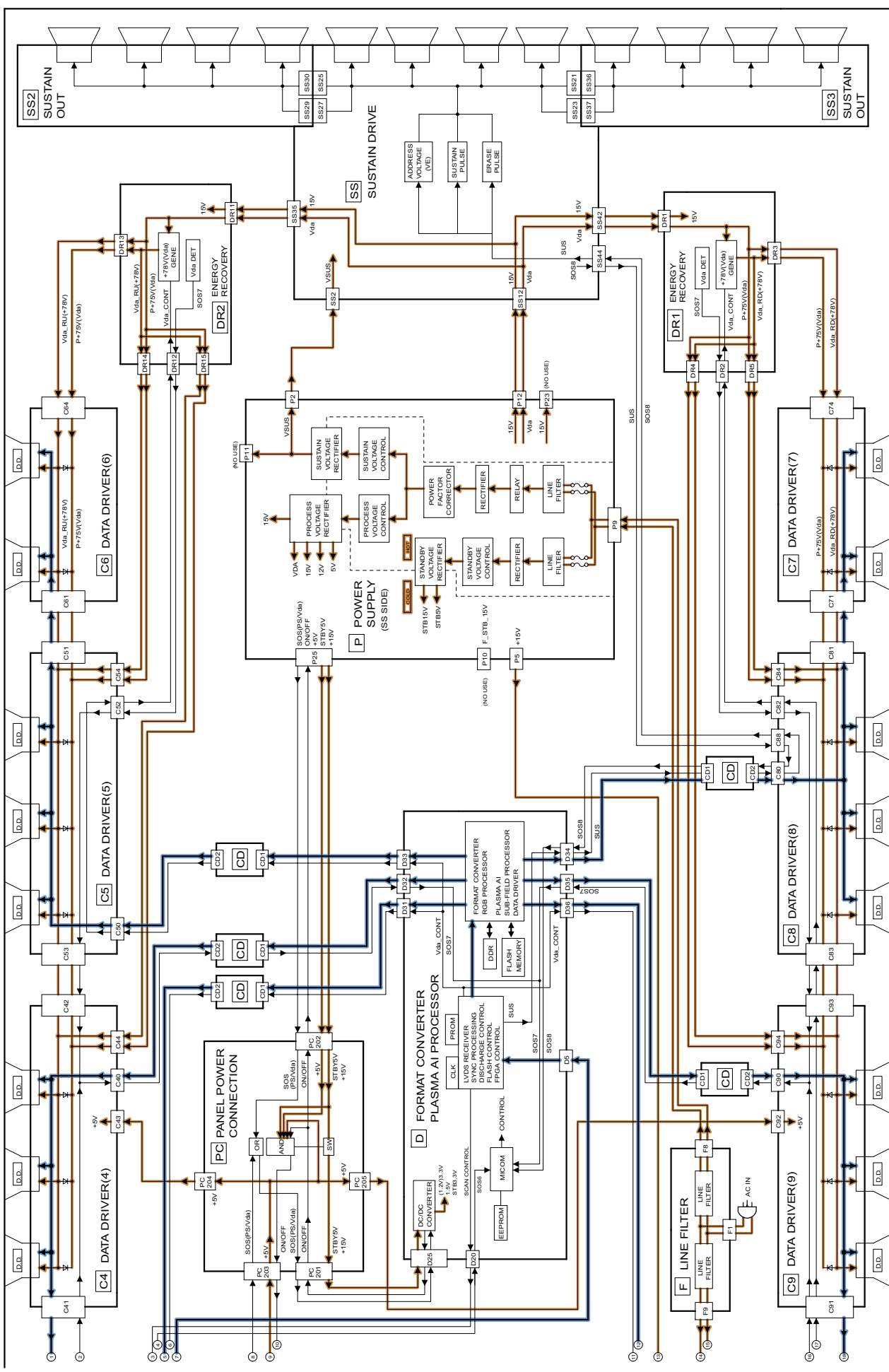
Remarks:

- The Power Circuit contains a circuit area which uses a separate power supply to isolate the earth connection.
The circuit is defined by HOT and COLD indications in the schematic diagram. Take the following precautions.
All circuits, except the Power Circuit, are cold.
Precautions
 - Do not touch the hot part or the hot and cold parts at the same time or you may be shocked.
 - Do not short- circuit the hot and cold circuits or a fuse may blow and parts may break.
 - Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously or a fuse may blow.
Connect the earth of instruments to the earth connection of the circuit being measured.
 - Make sure to disconnect the power plug before removing the chassis.

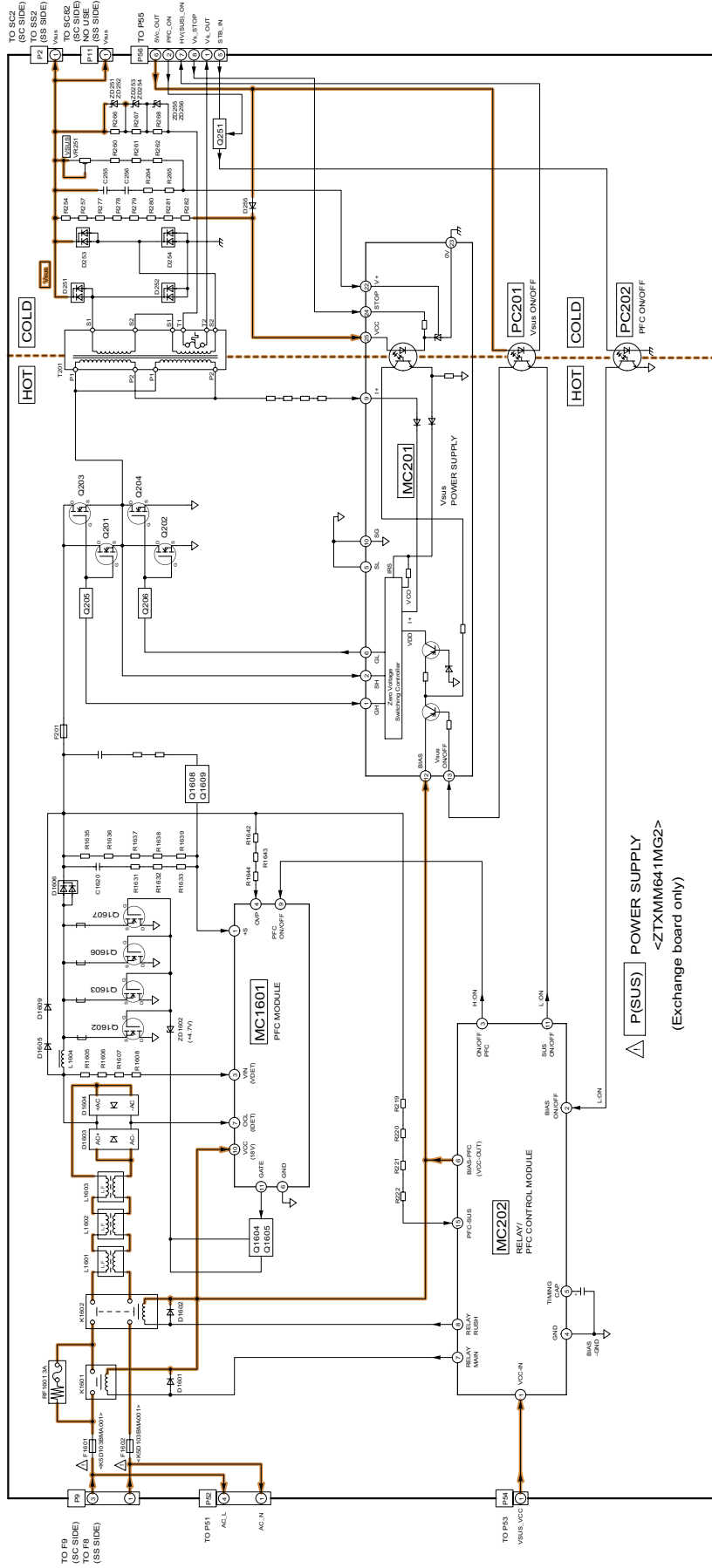
9.2. Main (1 of 2) Block Diagram



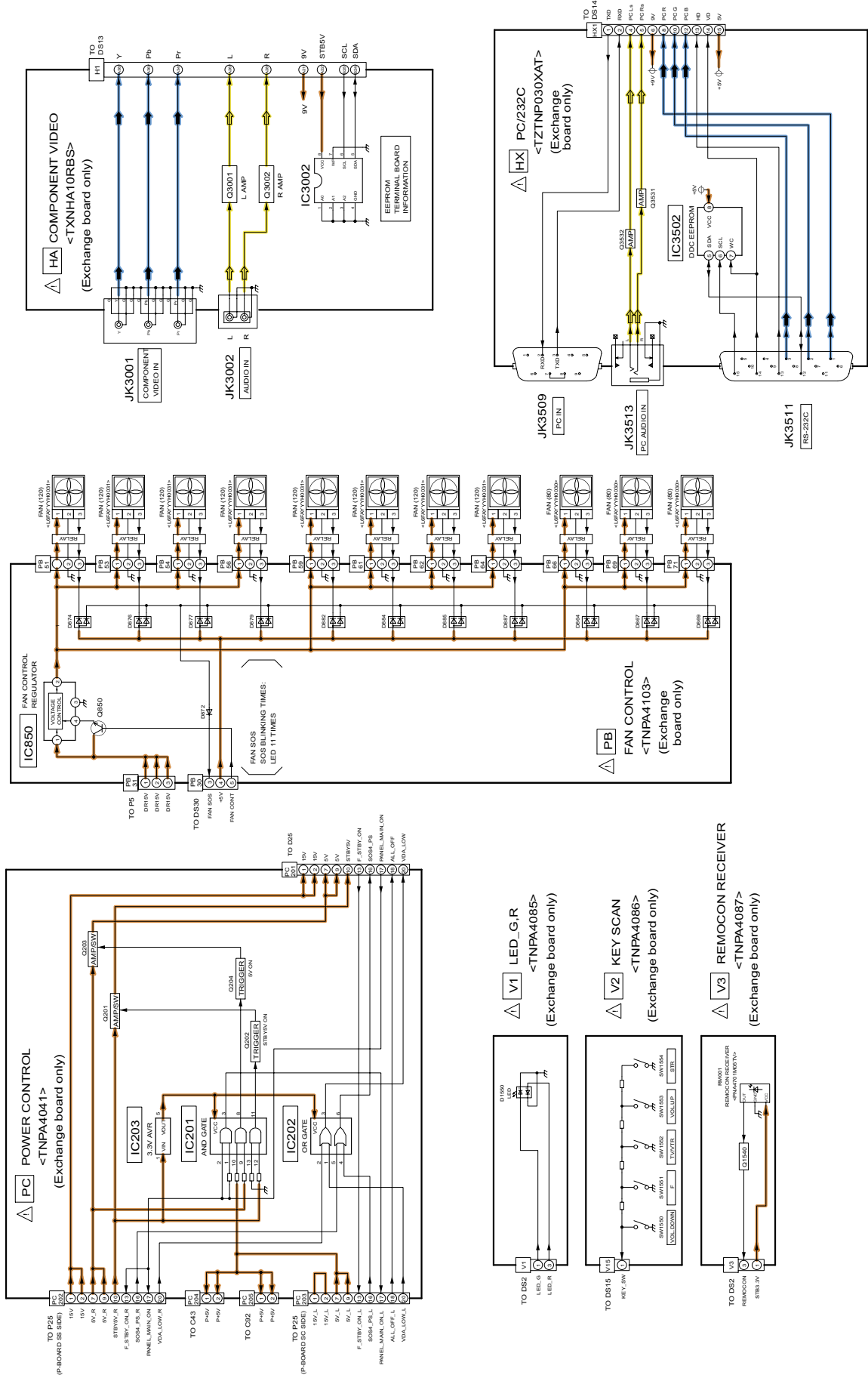
9.3. Main (2 of 2) Block Diagram



9.4. P-Board (1 of 2) and F-Board Block Diagram



9.6. HA, HX, PC, PB, V1, V2 and V3-Board Block Diagram

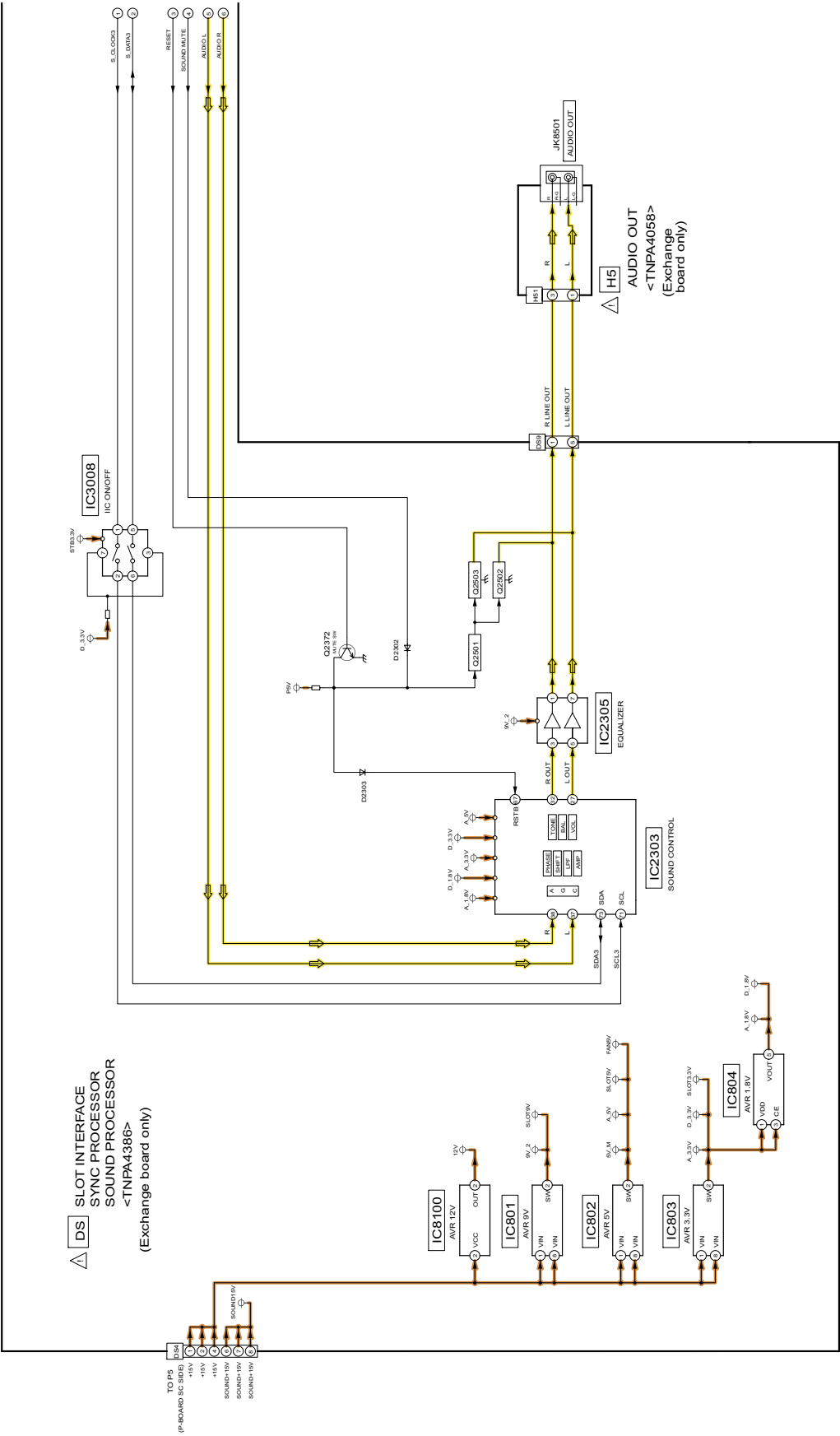


TH-103PF10WK/TK/RK
HA, HX, PC, PB, V1, V2 and V3 Block Diagram

TH-103PF10WK/TK/RK
HA, HX, PC, PB, V1, V2 and V3 Block Diagram



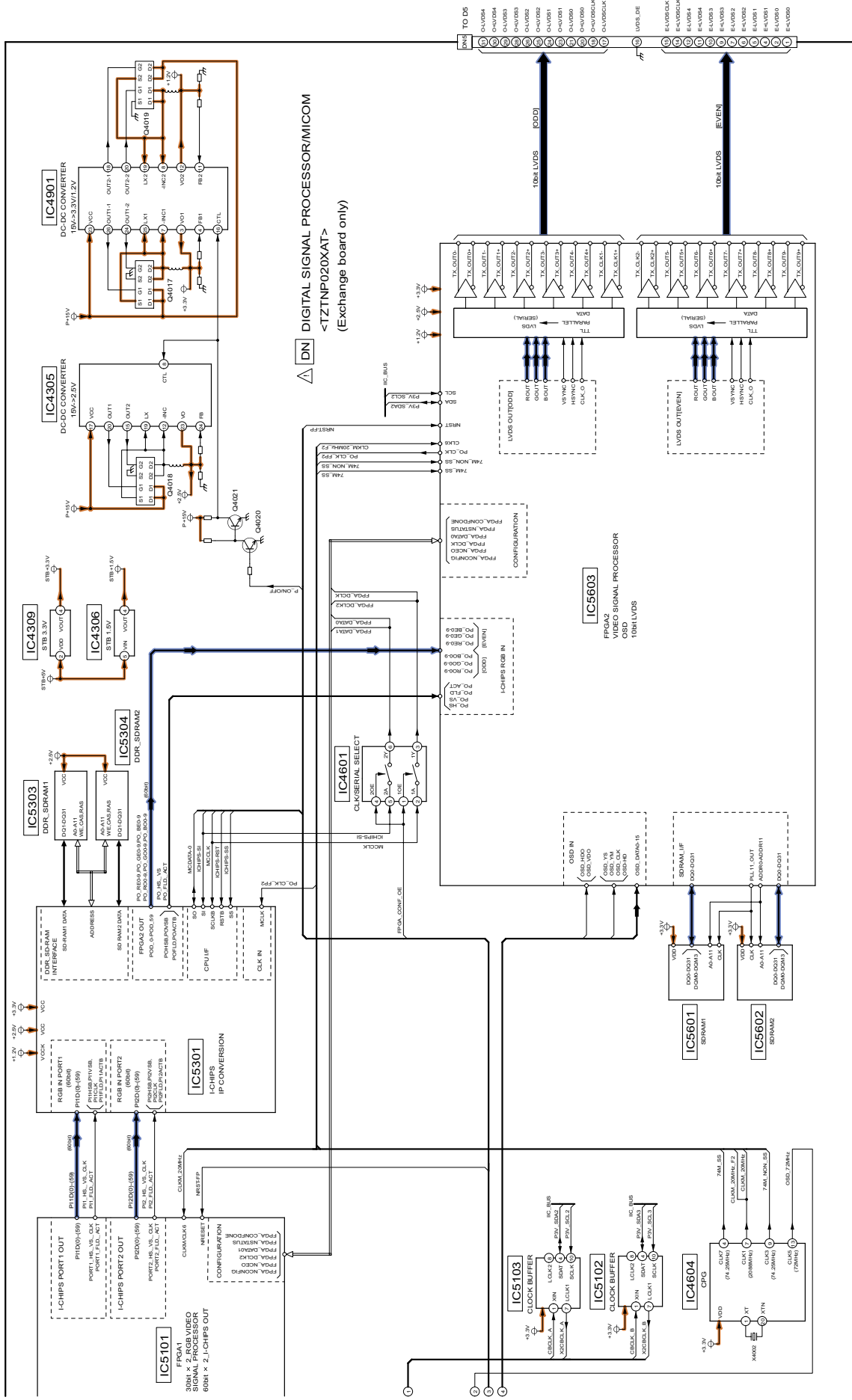
9.9. DS-Board (1 of 2) and H3-Board Block Diagram





TH-103PF10WK/TK/RK DS-Board (2 of 2) Block Diagram

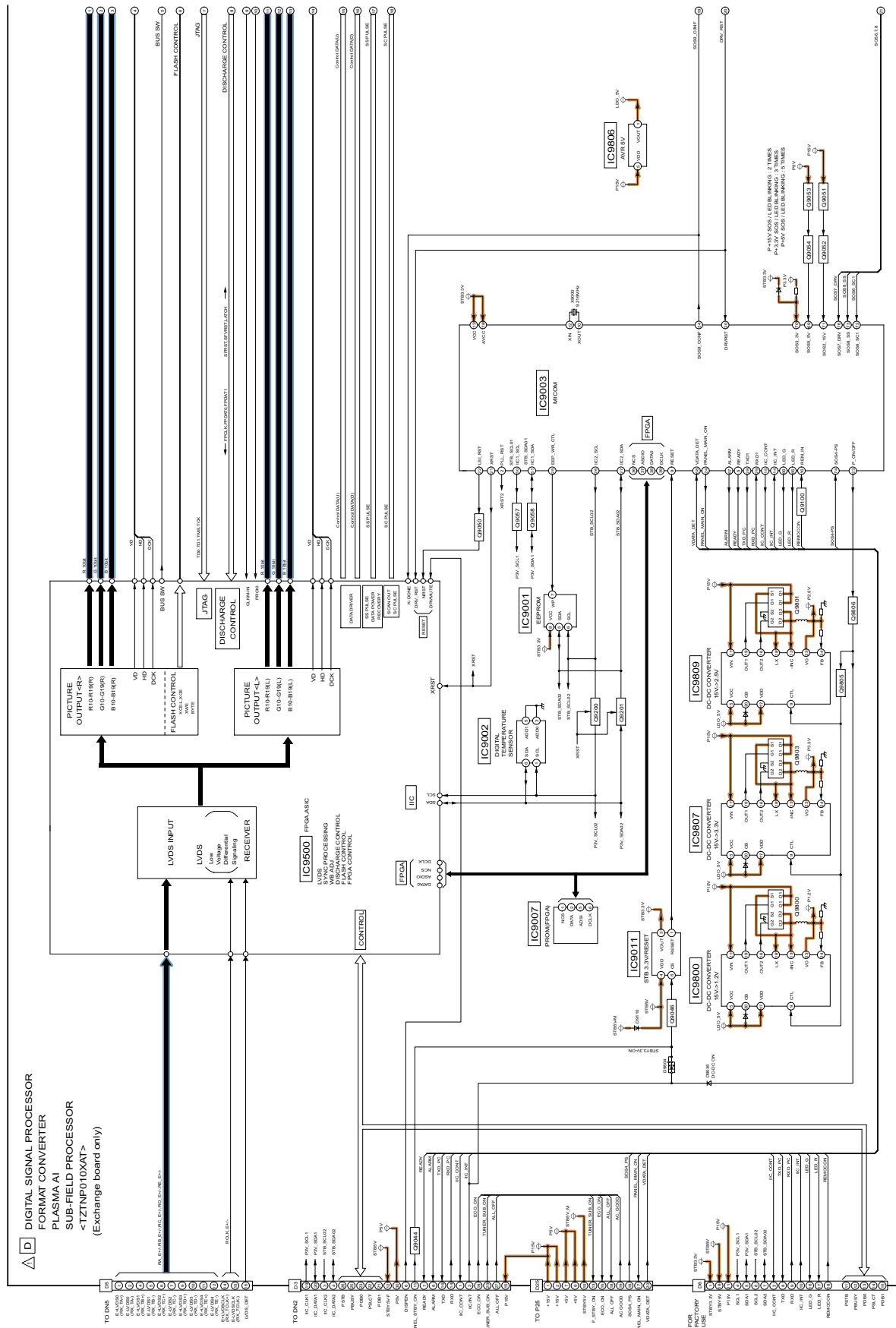
9.12. DN-Board (2 of 2) Block Diagram



TH-103PF10WK/TK/RK
DN-Board (2 of 2) Block Diagram

TH-103PF10WK/TK/RK
DN-Board (2 of 2) Block Diagram

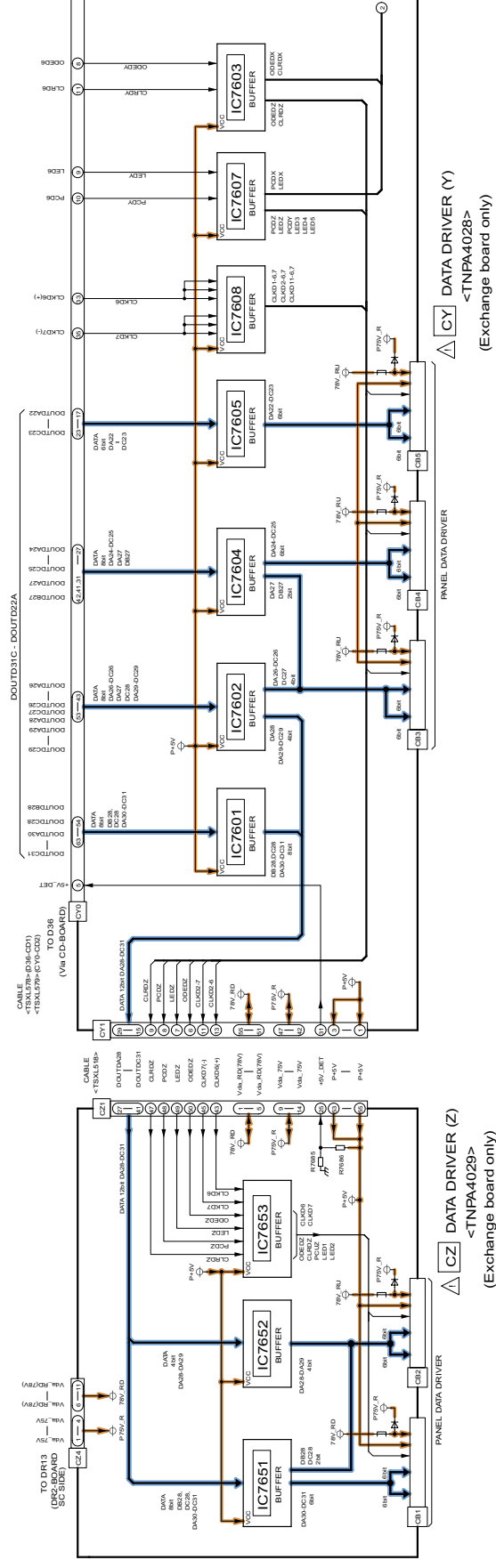
9.13. D-Board (1 of 2) Block Diagram



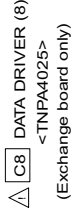
TH-103PF10WKTK/RK
D-Board (1 of 2) Block Diagram

TH-103PF10WKTK/RK
D-Board (1 of 2) Block Diagram



TH-103PF10WK/TK/RK
C1, C2, C Y and CZ-Board Block Diagram



TH-103PF10WK/TK/RK
C4, C5, C8 and C9-Board Block Diagram

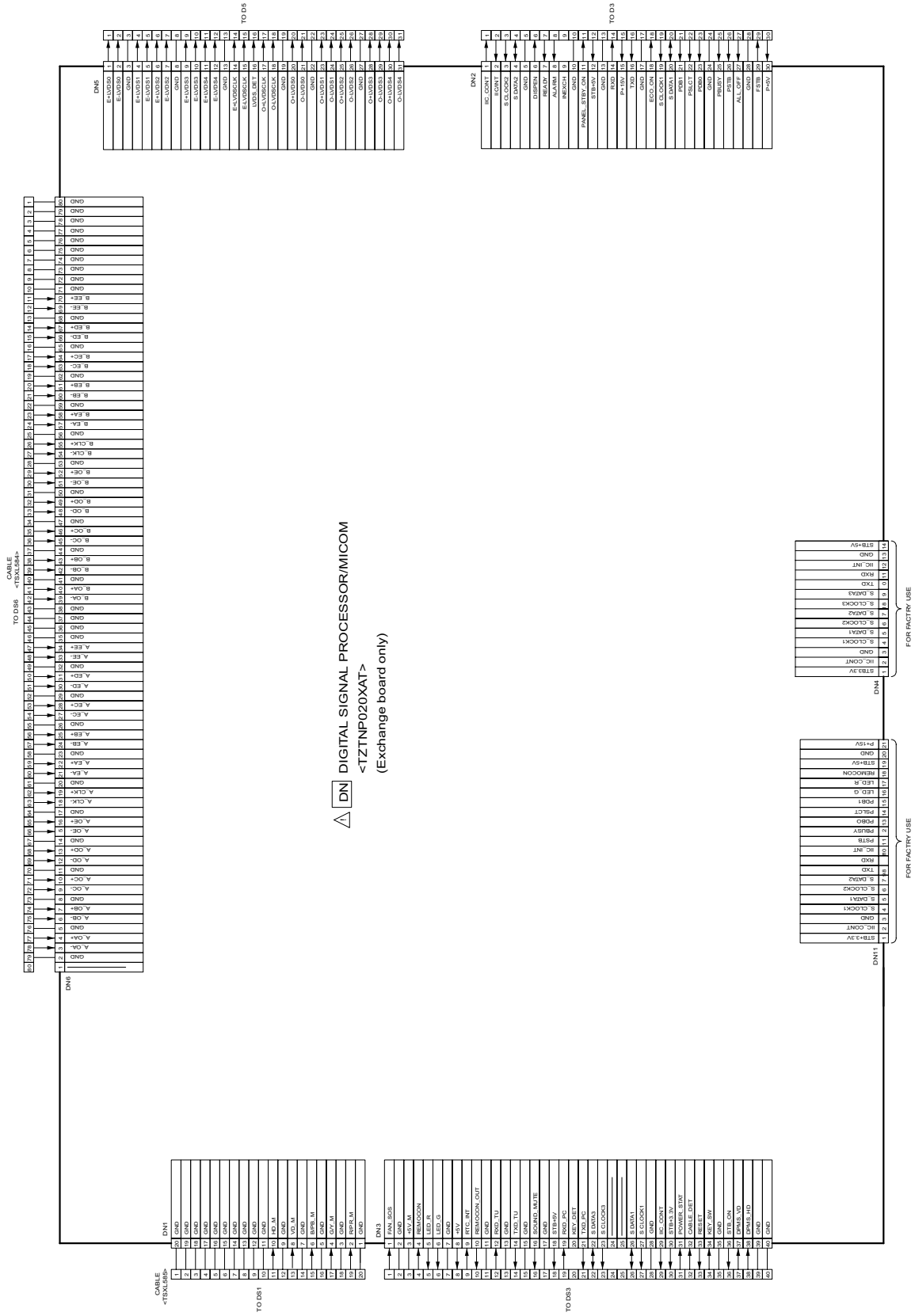


TH-103PF10WK/TK/RK
SC-Board Block Diagram

TH-103PF10WK/TK/RK
SU, SM and SD-Board Block Diagram

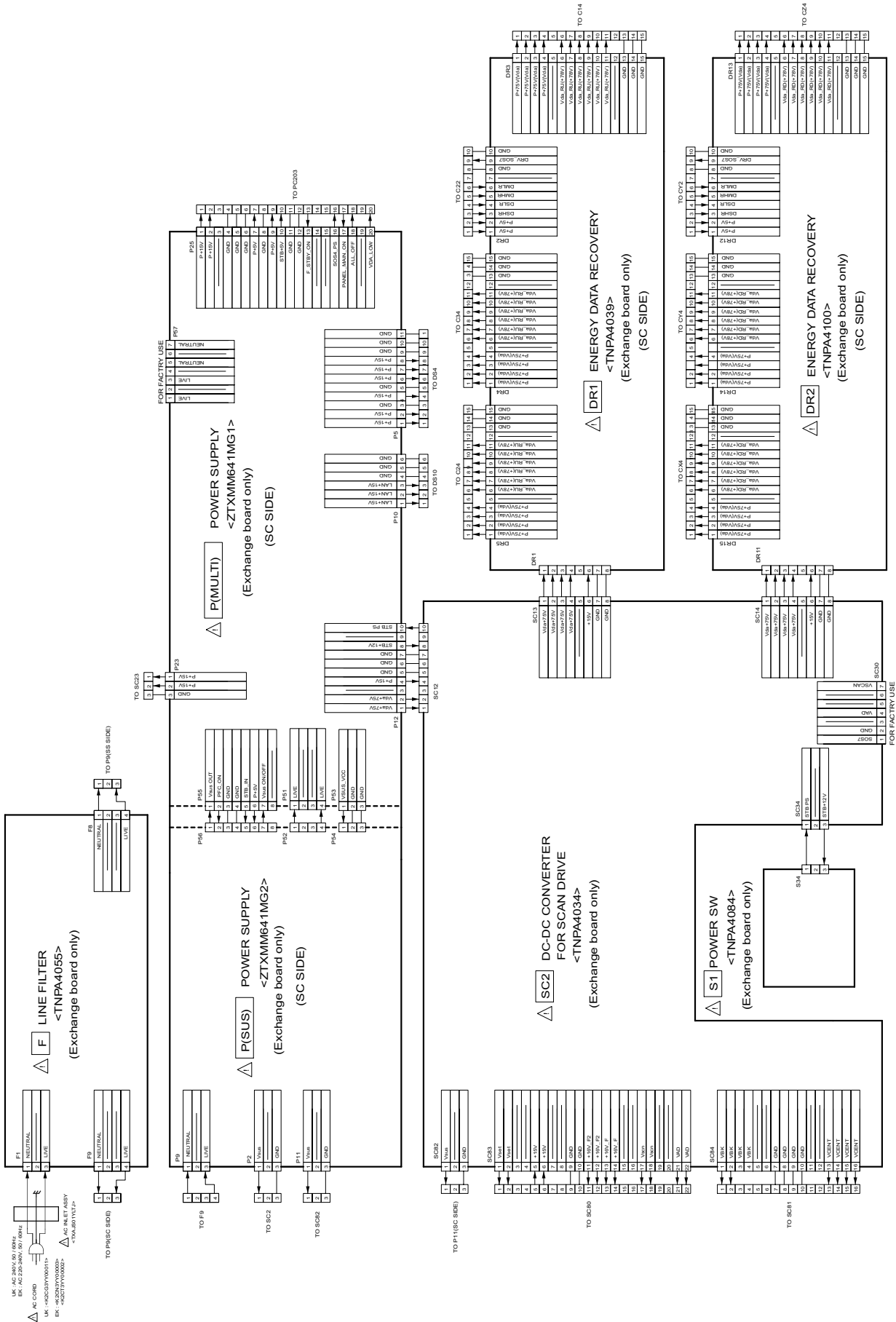


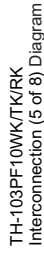
10.2. Interconnection (2 of 8) Diagram



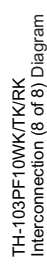


10.4. Interconnection (4 of 8) Diagram

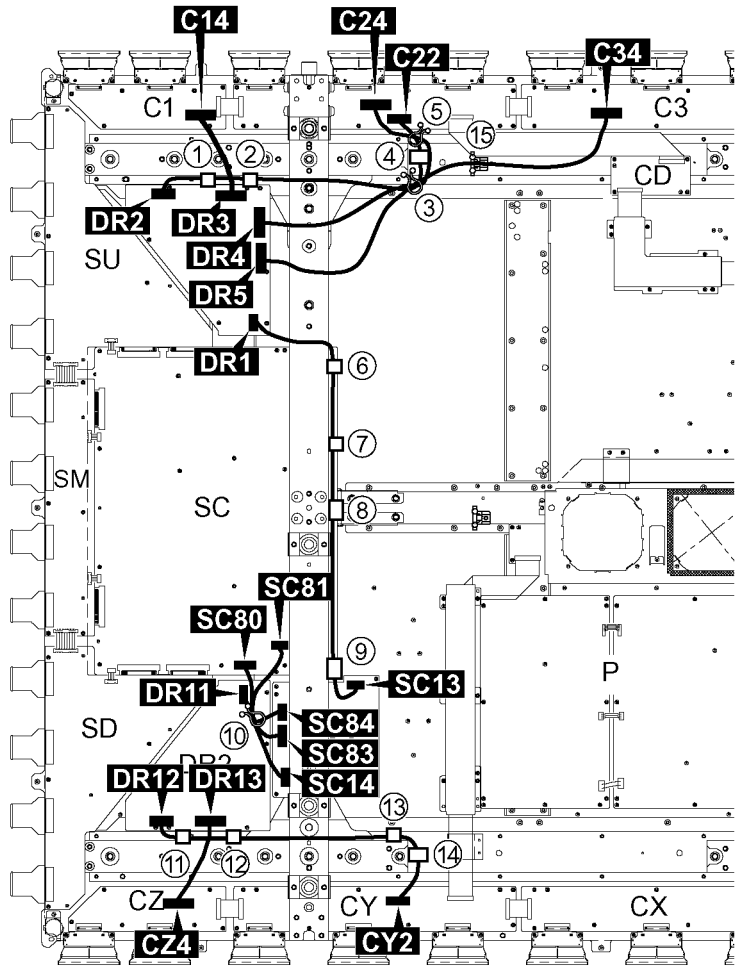








10.8. Lead Wiring (1)



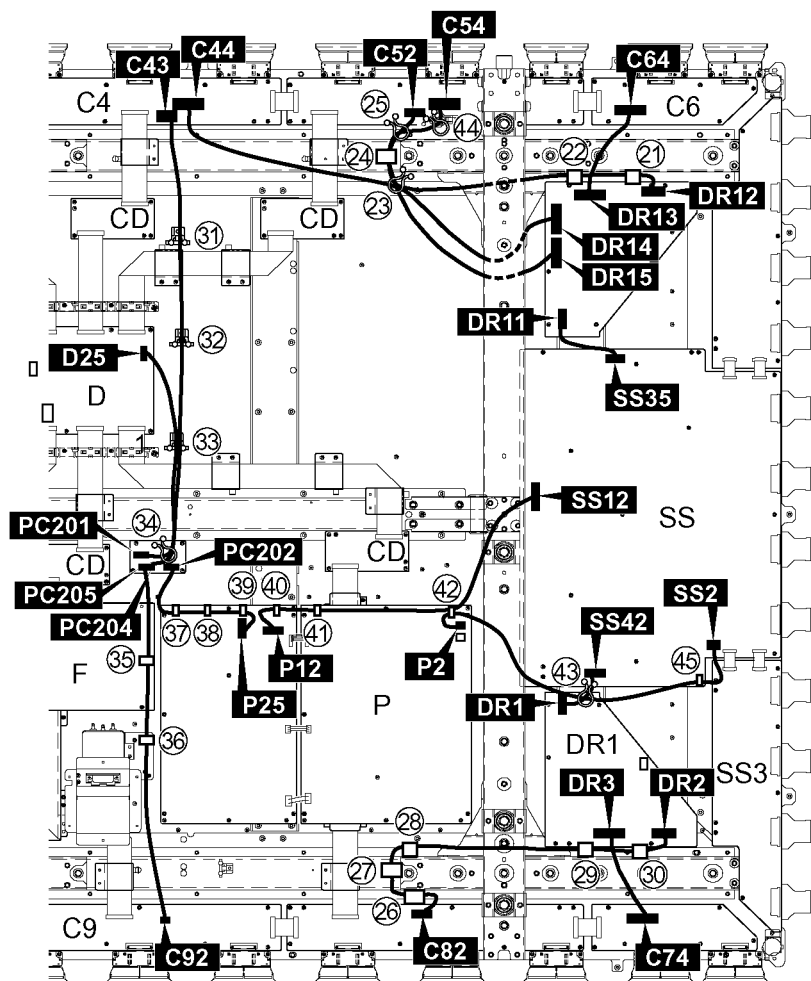
Clamp position

CONNECTOR NUMBER	1	2	3	4	5	6	7	8	9	15
DR3 - C14										
DR2 - C22	○	○	○	○	○					
DR4 - C24			○		○					
DR5 - C34			○							○
DR1 - SC13						○	○	○	○	

CONNECTOR NUMBER	10	11	12	13	14					
DR11 - SC14	○									
SC80 - SC83	○									
SC81 - SC84	○									
DR13 - CZ4	No Clamp									
DR12 - CY2		○	○	○	○					

■ : Connector position

10.9. Lead Wiring (2)



Clamp position

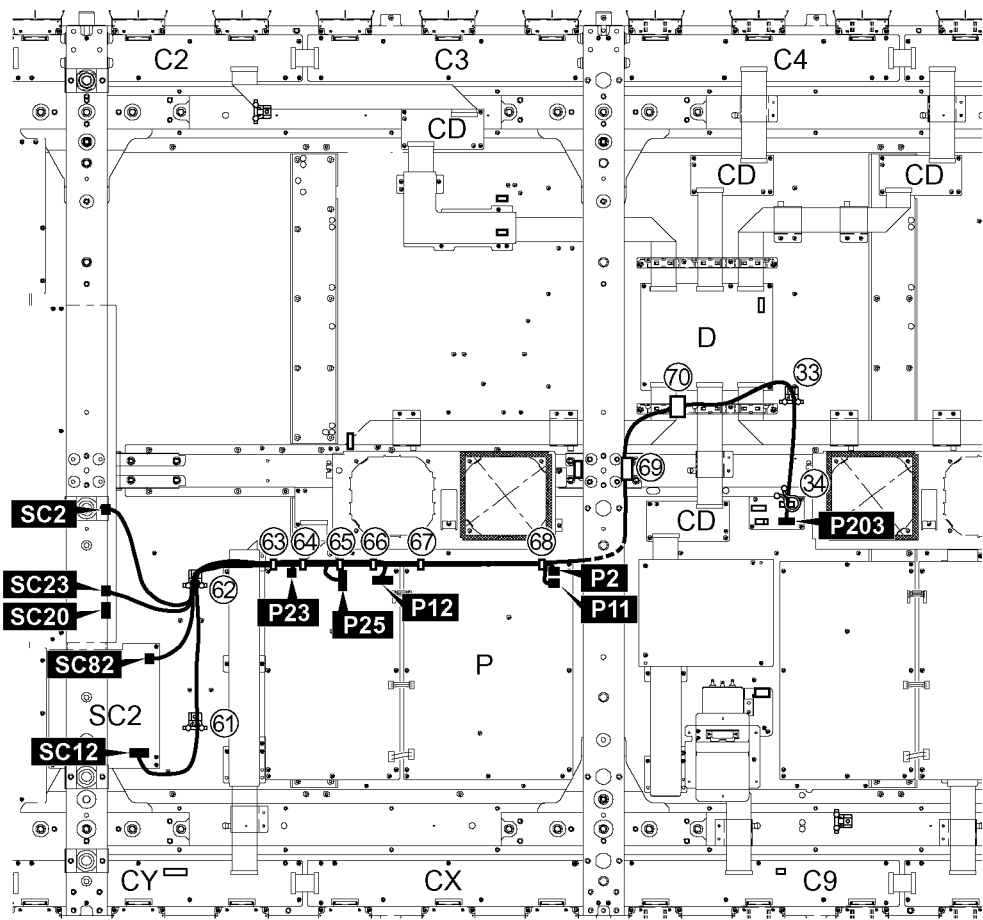
CONNECTOR NUMBER	21	22	23	24	25	26	27	28	29	30	44
DR13 - C64											
DR12 - C52	○	○	○	○	○						
DR14 - C44			○								
DR15 - C54			○		○						○
DR11 - SS35	No Clamp										
DR3 - C74	No Clamp										
DR2 - C82						○	○	○	○	○	

CONNECTOR NUMBER	31	32	33	34	35	36	37	38	39		
C43 - PC204	○	○	○	○							
D25 - PC201			○	○							
PC205 - C92					○	○					
PC202 - P25				○			○	○	○		

CONNECTOR NUMBER	40	41	42	43	45						
P12 - SS12	○	○	○								
P2 - SS2			○	○	○						
DR1 - SS42				○							

■ : Connector position

10.10. Lead Wiring (3)

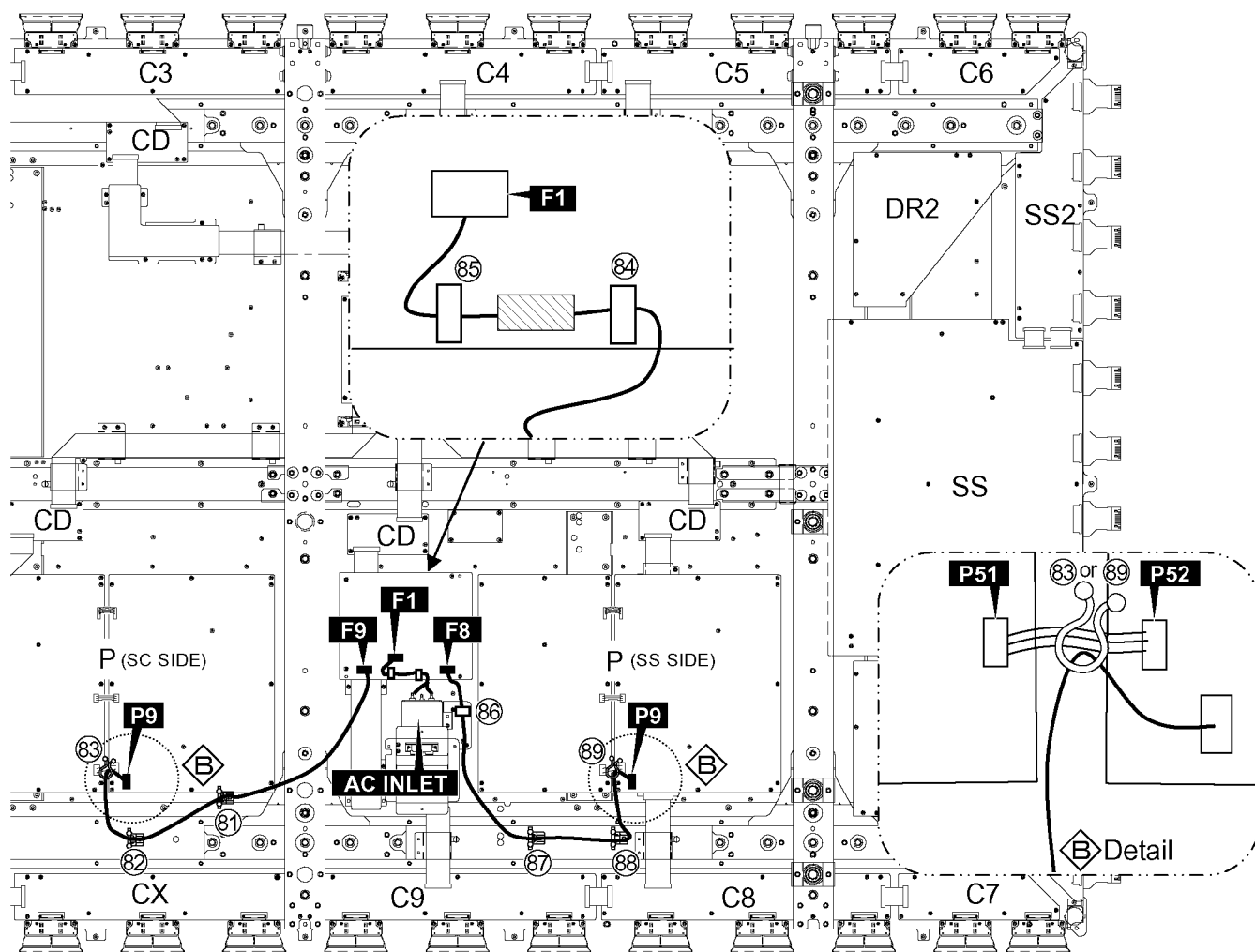


Clamp position

CONNECTOR NUMBER	61	62	63	64	65	66	67	68	69	70	33	34
SC12 - P12	○	○	○	○	○	○						
SC82 - P11		○	○	○	○	○	○	○				
SC23 - P23		○	○									
SC2 - P2		○	○	○	○	○	○	○				
P25 - PC203					○	○	○	○	○	○	○	○

 : Connector position

10.11. Lead Wiring (4)

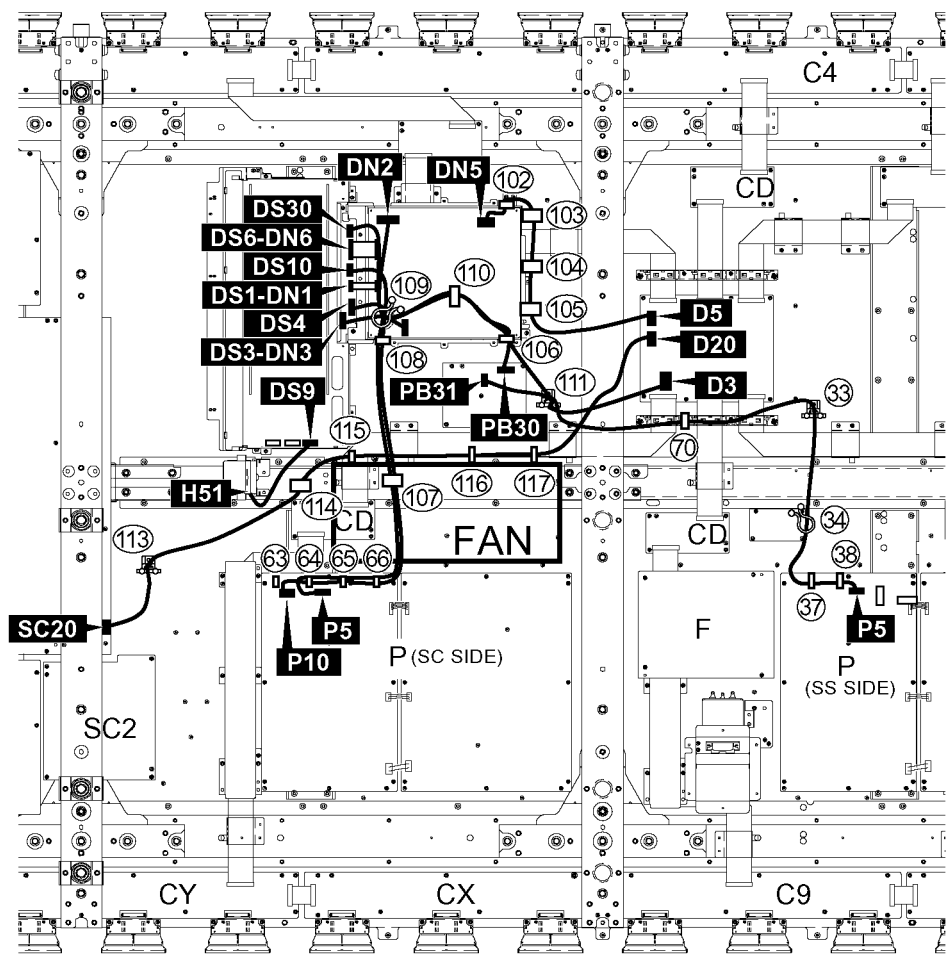


Clamp position

CONNECTOR NUMBER	81	82	83	84	85	86	87	88	89
F9 - P9 (SC SIDE)	○	○	○						
AC INLET - F1				○	○				
F8 - P9 (SS SIDE)						○	○	○	○
P51(SC SIDE) - P52(SC SIDE)			○						
P51(SS SIDE) - P52(SS SIDE)									○

■ : Connector position

10.12. Lead Wiring (5)



Clamp position

CONNECTOR NUMBER	102	103	104	105	106	109	110	111
DN5 - D5	○	○	○	○				
DN2 - D3					○	○	○	○
DS3 - DN3						○		
DS30 - PB30					○	○	○	

CONNECTOR NUMBER	107	108	109	66	65	64	63	
DS10 - P10	○	○	○	○	○	○		
DS4 - P5 (SC SIDE)	○	○	○	○	○	○		

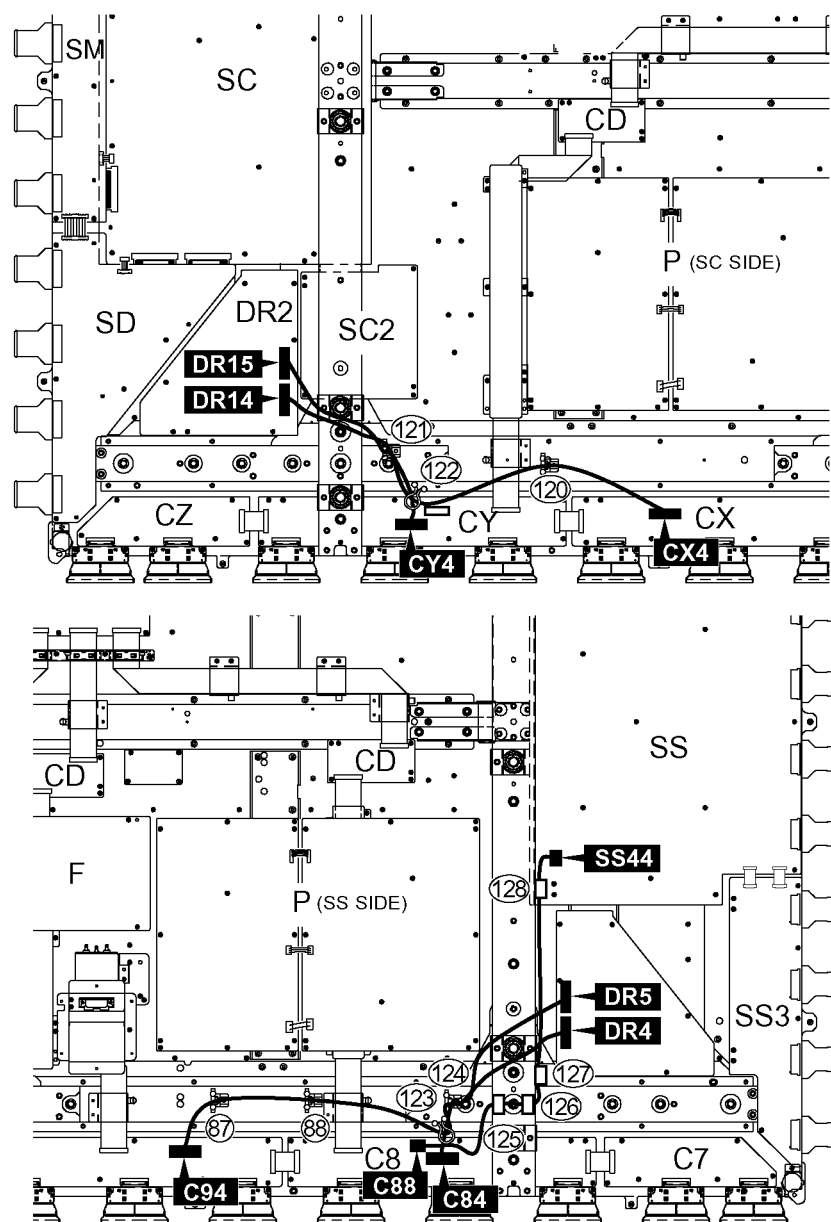
CONNECTOR NUMBER	111	70	33	34	37	38		
PB31 - P5 (SS SIDE)	○	○	○	○	○	○		

CONNECTOR NUMBER	113	114	115	116	117			
SC20 - D20	○	○	○	○	○			

CONNECTOR NUMBER								
DS6 - DN6	No Clamp							
DS1 - DN1	No Clamp							
H51 - DS9	No Clamp							

■ : Connector position

10.13. Lead Wiring (6)

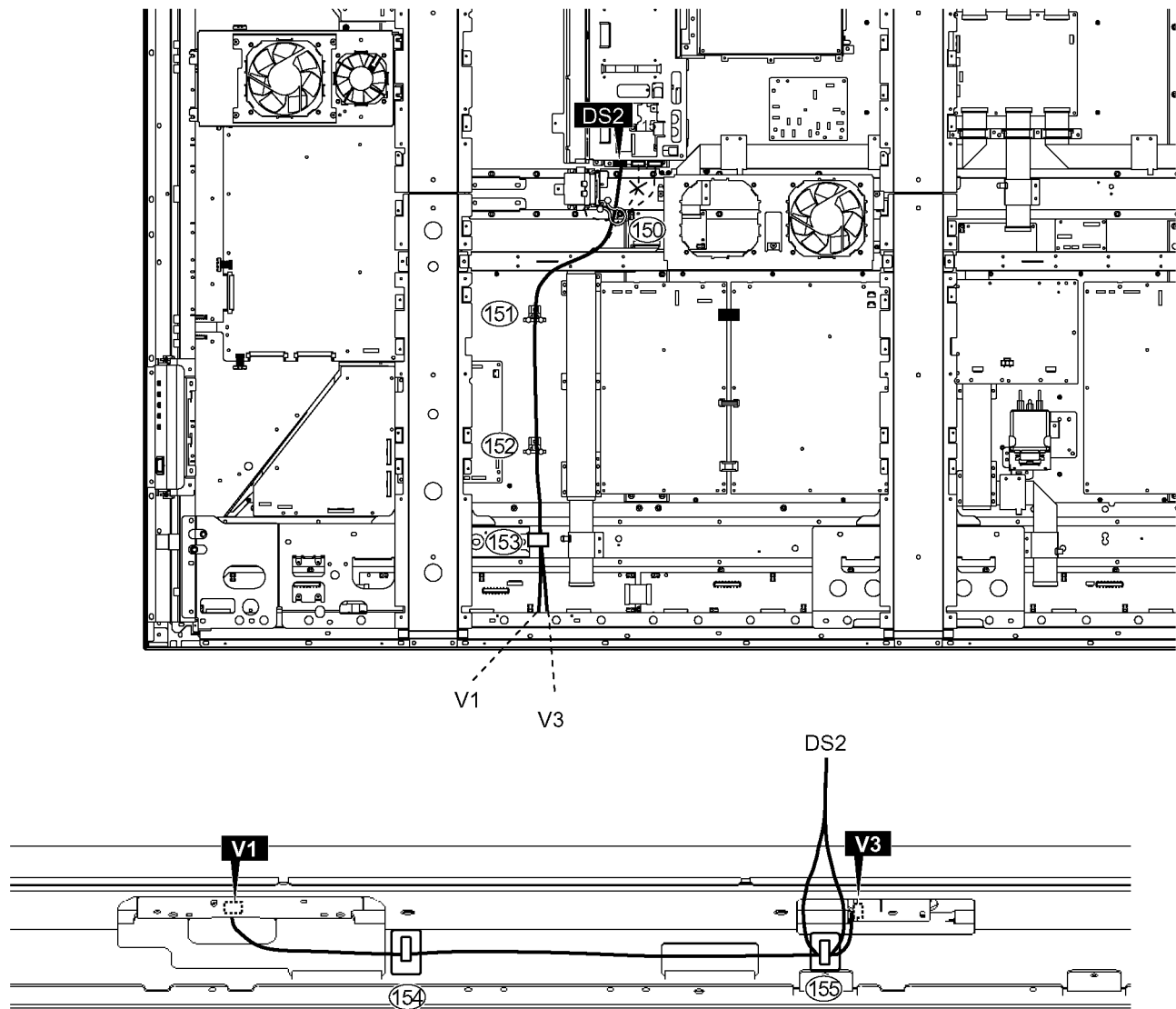


Clamp position

CONNECTOR NUMBER	87	88	120	121	122	123	124	125	126	127	128
DR15 - CY4				○	○						
DR14 - CX4			○	○	○						
C94 - DR5	○	○				○	○				
C84 - DR4						○	○				
C88 - SS44								○	○	○	○

 : Connector position

10.14. Lead Wiring (7)

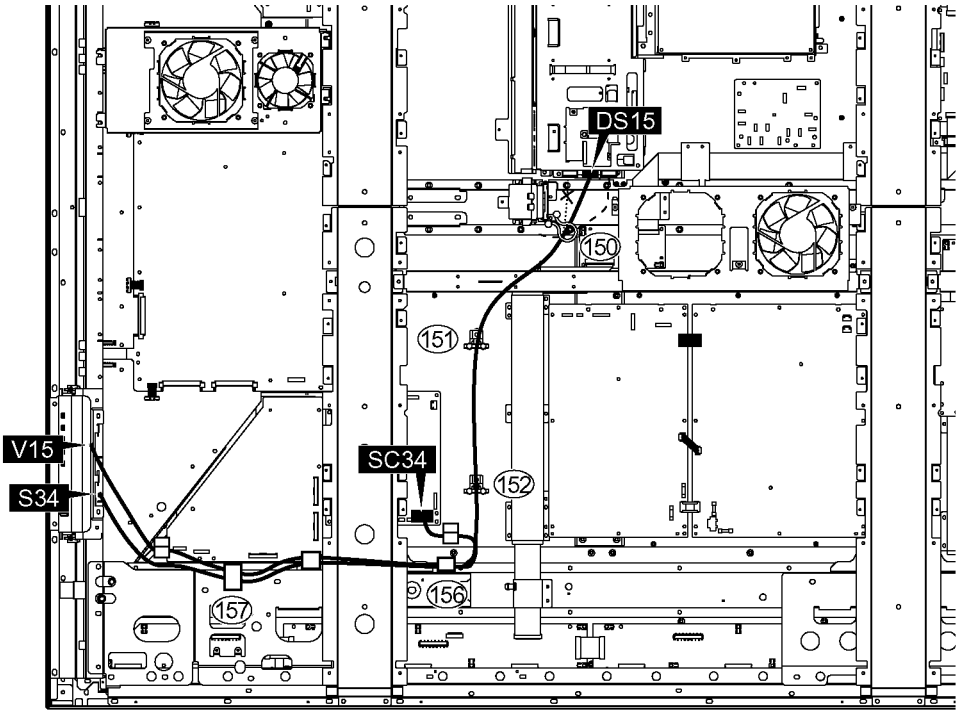


Clamp position

CONNECTOR NUMBER	150	151	152	153	154	155
V1 - DS2	○	○	○	○	○	○
V3 - DS2	○	○	○	○		○

■ : Connector position

10.15. Lead Wiring (8)

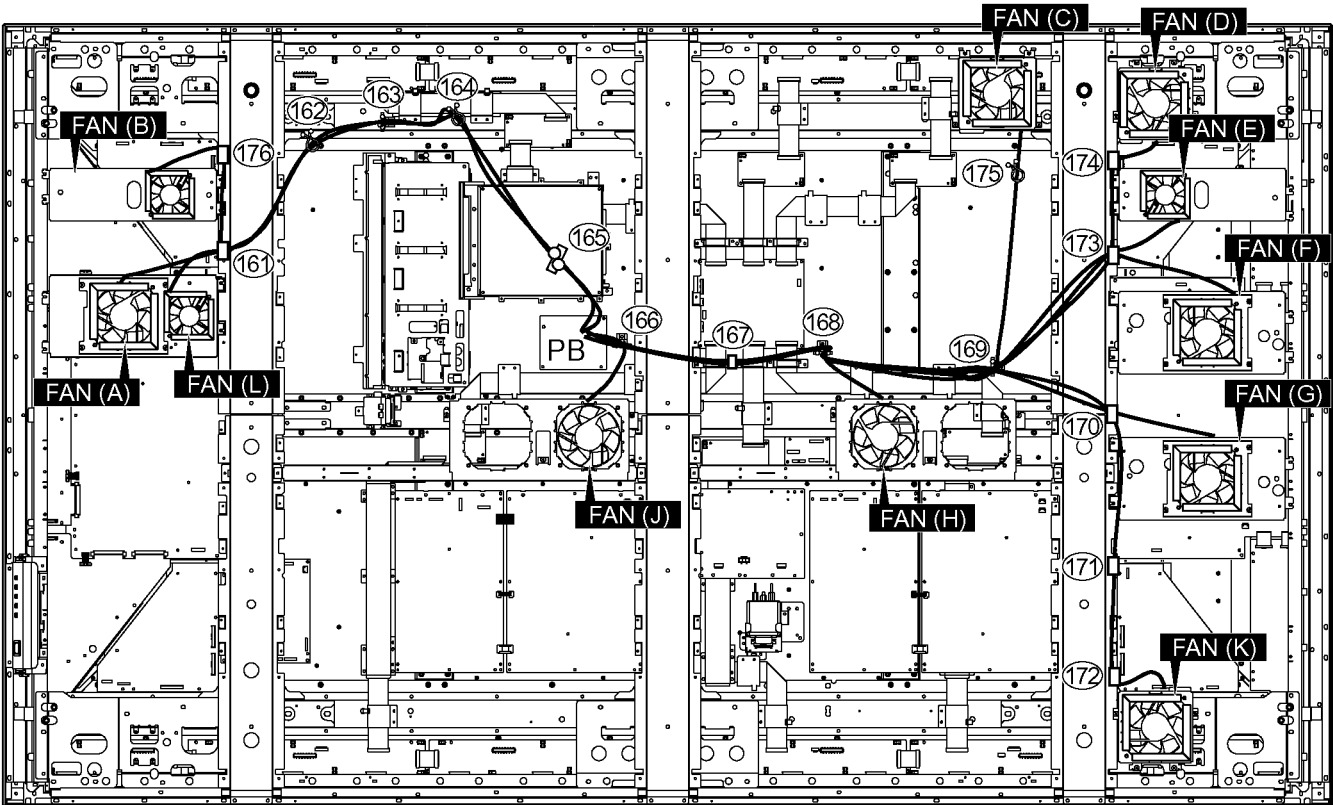


Clamp position

CONNECTOR NUMBER	150	151	152	156	157
S34 - SC34				○	○
V15 - DS15	○	○	○	○	

■ : Connector position

10.16. Lead Wiring (9)



Clamp position

CONNECTOR NUMBER	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176
PB - FAN(B)	○	○	○	○	○											○
PB - FAN(A)	○	○	○	○	○											
PB - FAN(L)	○	○	○	○	○											
PB - FAN(J)						○										
PB - FAN(H)						○	○	○								
PB - FAN(C)						○	○	○	○						○	
PB - FAN(D)						○	○	○	○				○	○		
PB - FAN(E)						○	○	○	○				○			
PB - FAN(F)						○	○	○	○				○			
PB - FAN(G)						○	○	○	○	○						
PB - FAN(K)						○	○	○	○	○	○	○				

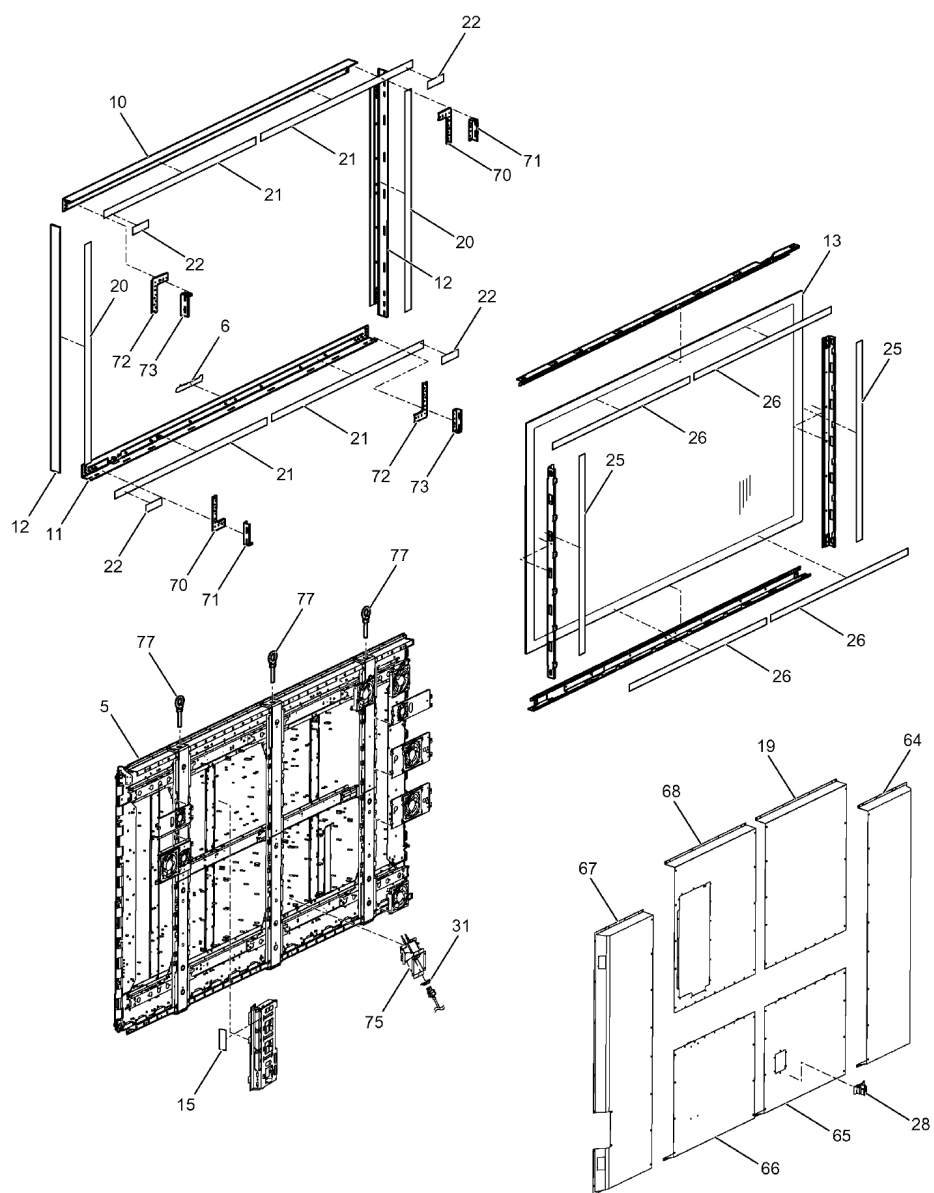
■ : Connector position

Model No. : TH-103PF10WK/TK/RK Caution

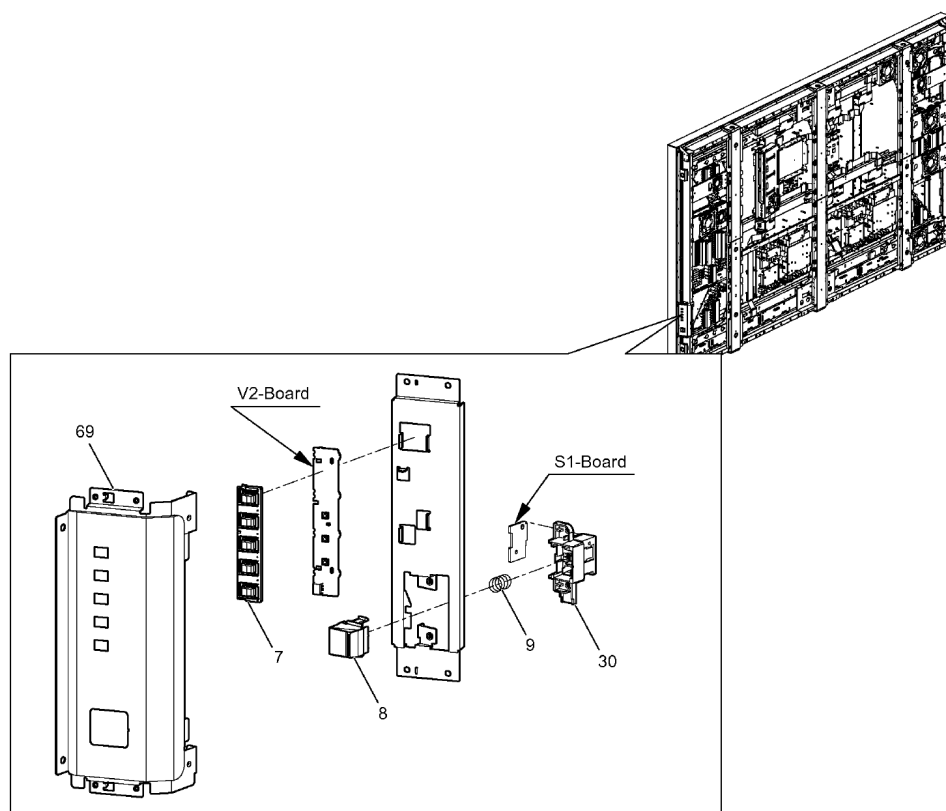
Note: Important Safety Notice

Components identified by  mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

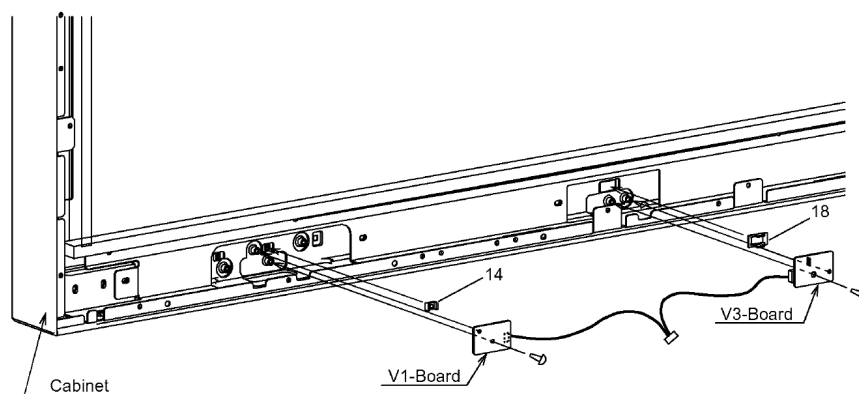
Model No. : TH-103PF10WK/TK/RK Exploded View



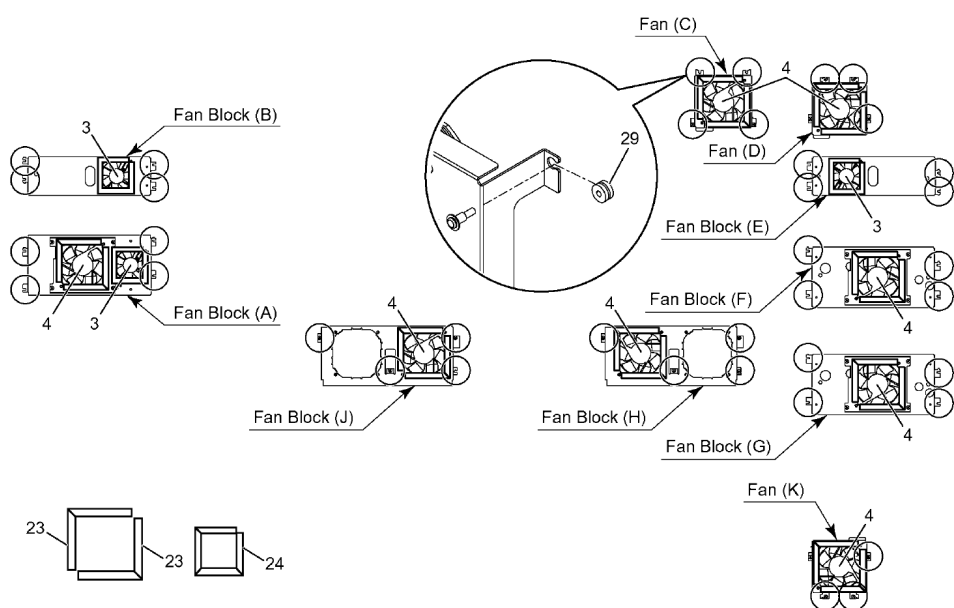
Model No. : TH-103PF10WK/TK/RK Side Power part location



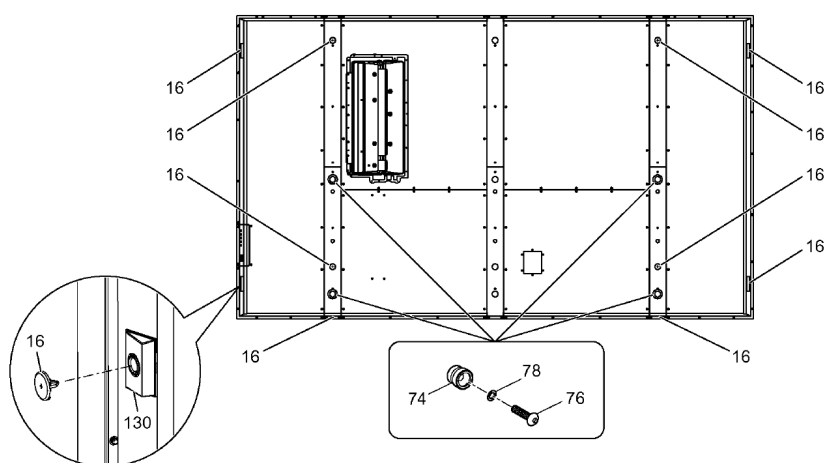
Model No. : TH-103PF10WK/TK/RK Cabinet part location



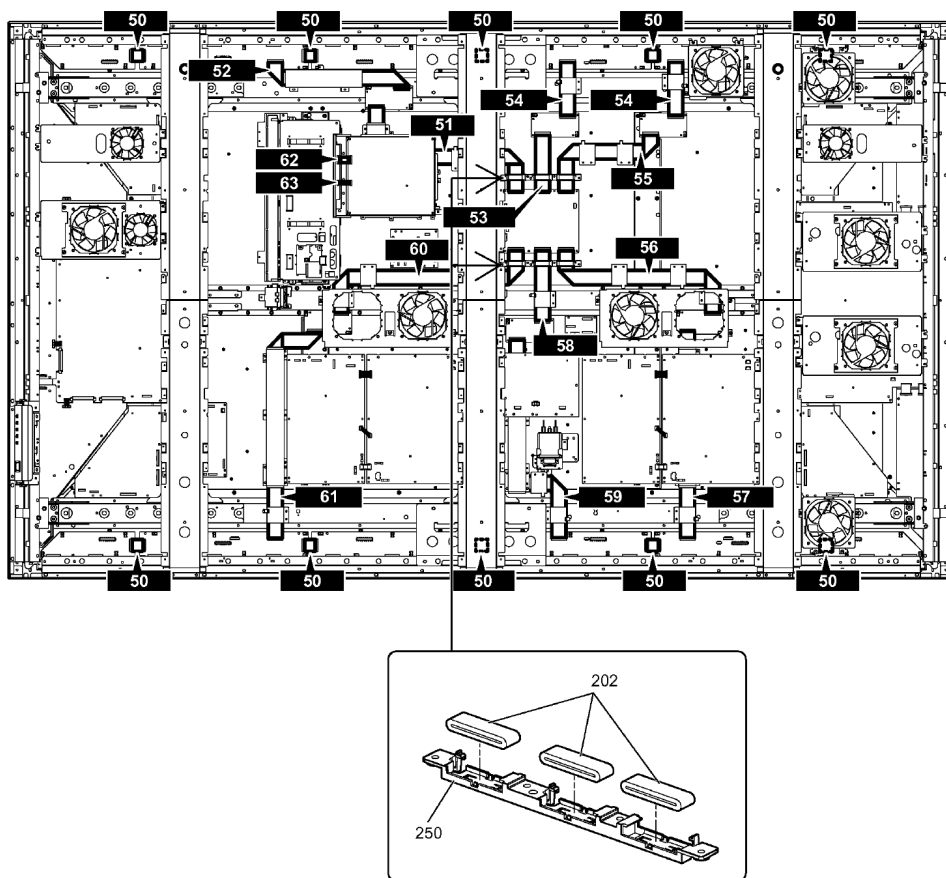
Model No. : TH-103PF10WK/TK/RK Fan part location



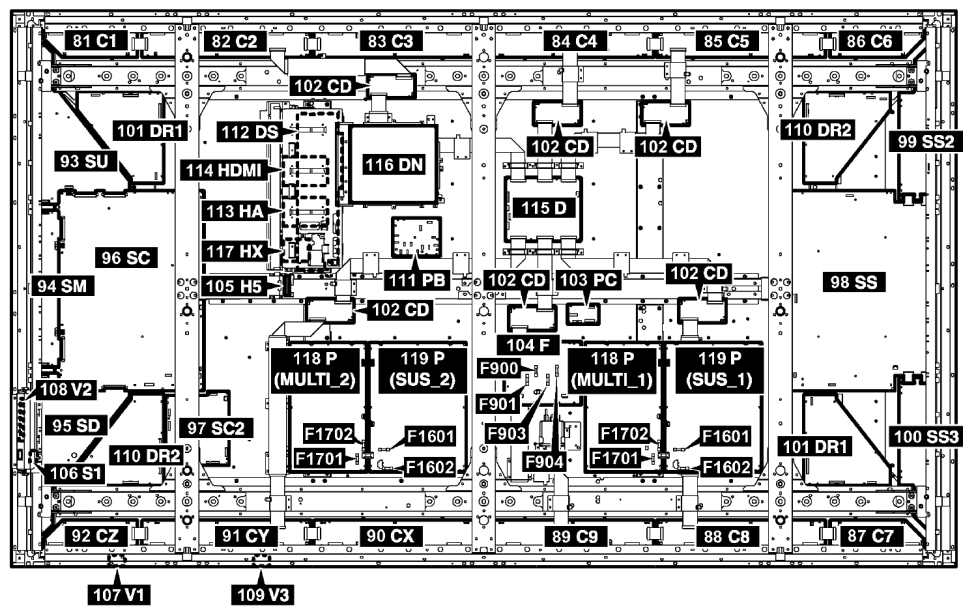
Model No. : TH-103PF10WK/TK/RK Rear cover location



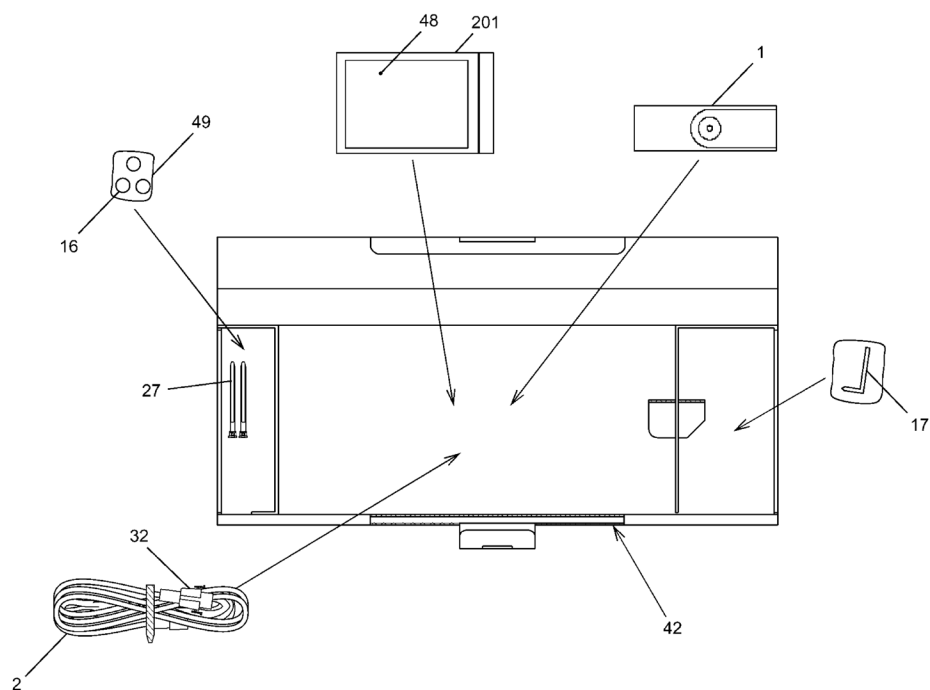
Model No. : TH-103PF10WK/TK/RK Cable relation



Model No. : TH-103PF10WK/TK/RK Board and Fuse



Model No. : TH-103PF10WK/TK/RK Packing summary (1)

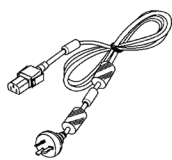


<AC power cord>

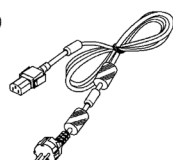
TH-103PF10WK

TH-103PF10TK

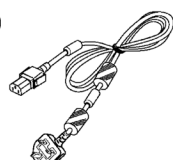
TH-103PF10RK



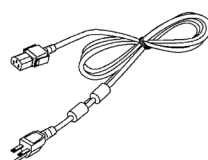
K2CK3YY00003
Oblique flat blade



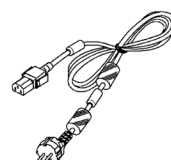
K2CN3YY00003
Round pin



K2CT3YY00002
Rectangular blade

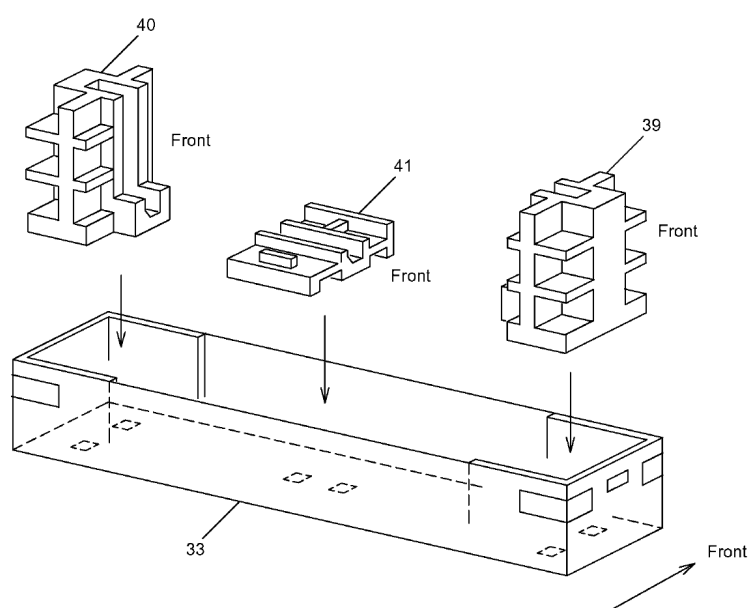


K2CG3YY00024
Flat parallel prongs

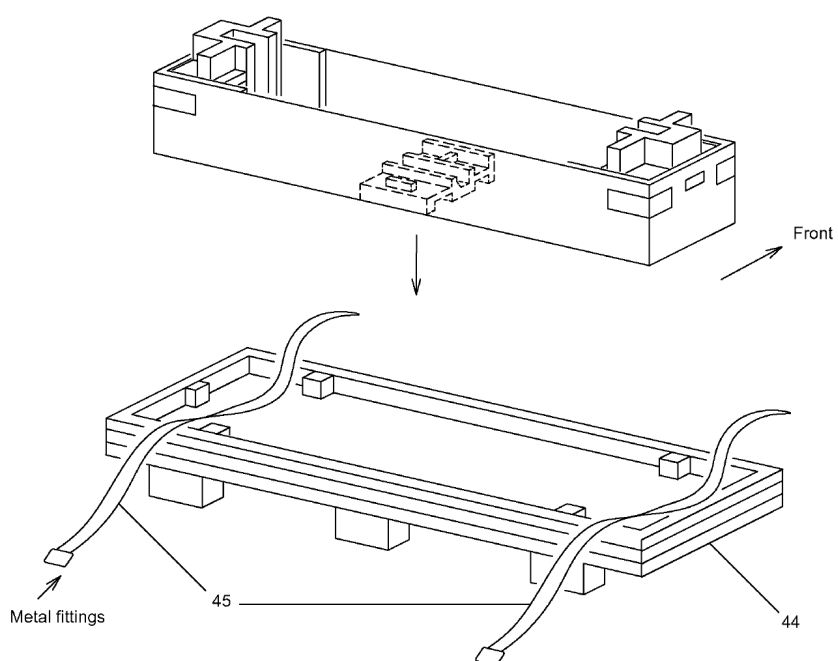


K2CN3YY00003
Round pin

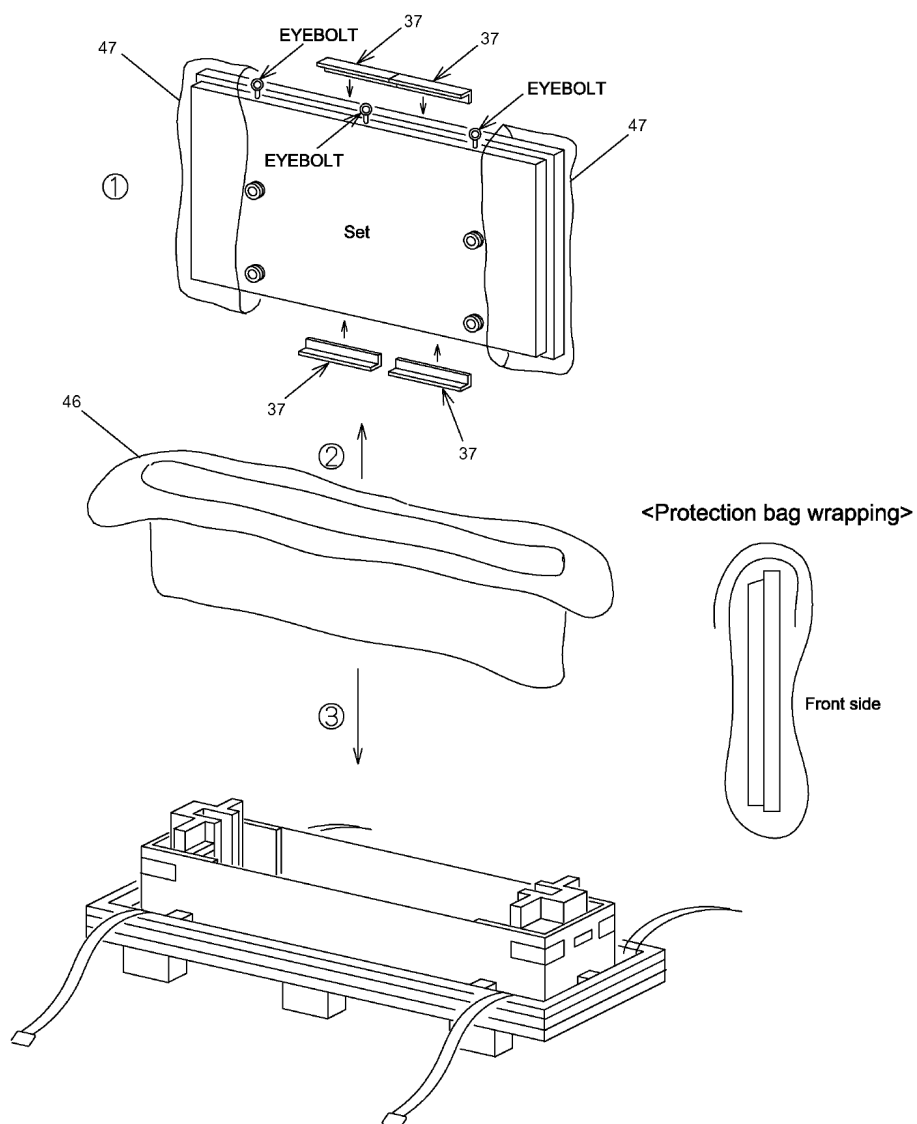
Model No. : TH-103PF10WK/TK/RK Packing summary (2)



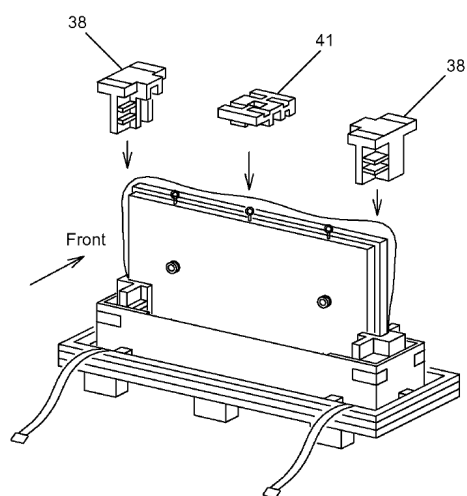
Model No. : TH-103PF10WK/TK/RK Packing summary (3)



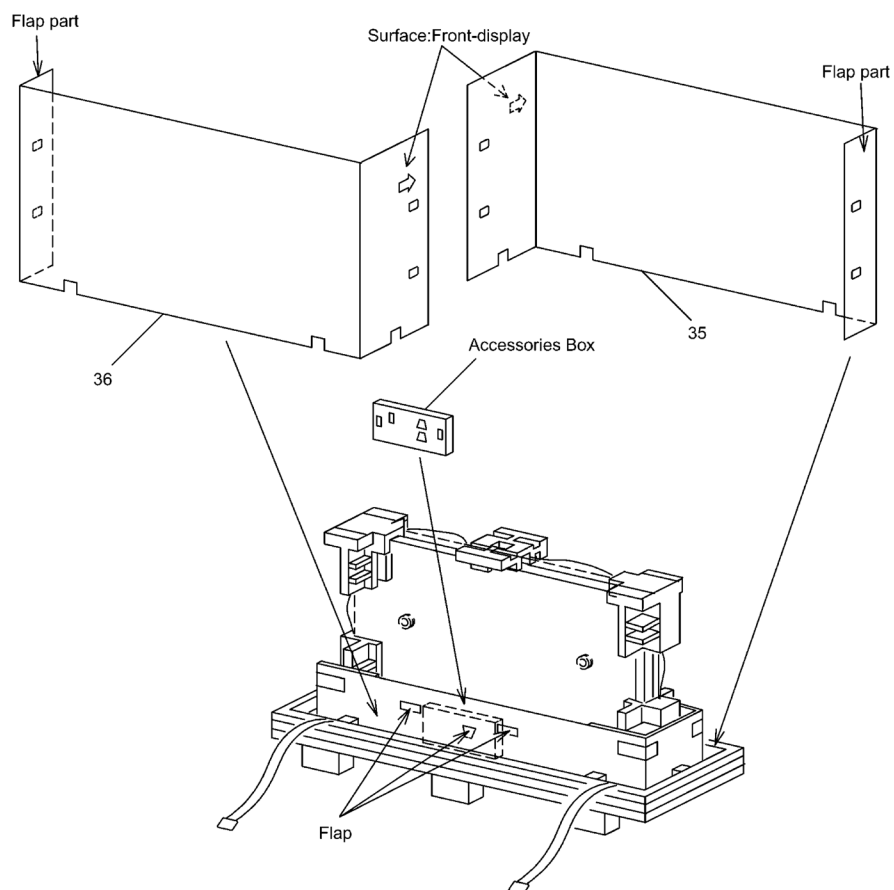
Model No. : TH-103PF10WK/TK/RK Packing summary (4)



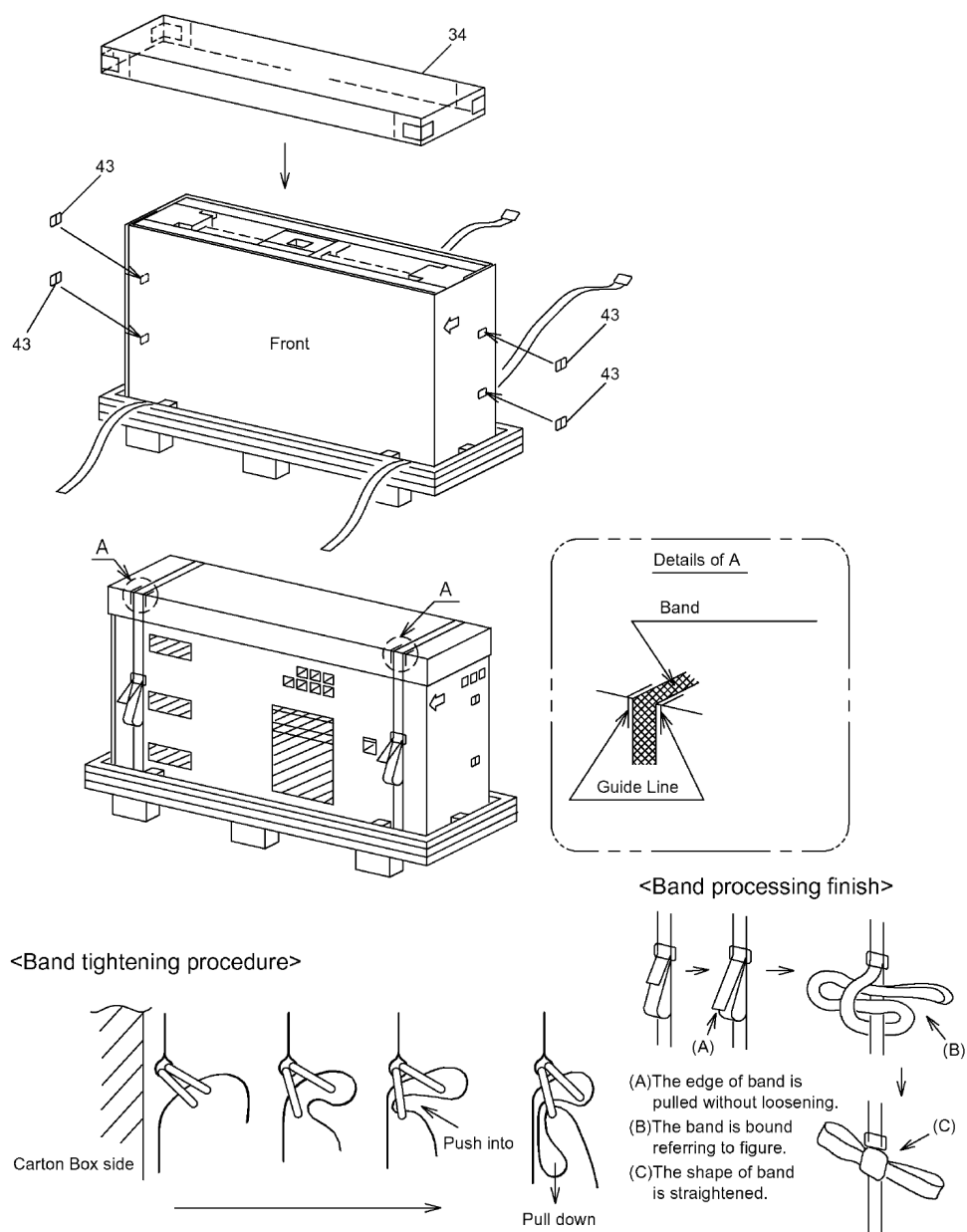
Model No. : TH-103PF10WK/TK/RK Packing summary (5)



Model No. : TH-103PF10WK/TK/RK Packing summary (6)



Model No. : TH-103PF10WK/TK/RK Packing summary (7)



Model No. : TH-103PF10WK/TK/RK Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
	1	EUR7636070R	REMOTE CONTROLLER	1	
	2	K2CK3YY00003	AC CORD	1	WK
	2	K2CN3YY00003	AC CORD	1	WK/RK
	2	K2CT3YY00002	AC CORD	1	WK
	2	K2CG3YY00024	AC CORD	1	TK
	3	L6FAYYYH0030	FAN UNIT (80)	3	
	4	L6FAYYYH0031	FAN UNIT (120)	8	
	5	MD103F10A1J	PLASMA DISPLAY PANEL	1	
	6	TBMA209	PANASONIC BADGE	1	
	7	TBXA46703A	5 RANGE BUTTON	1	
	8	TBXA50001	POWER BUTTON	1	
	9	TESD031	POWER BUTTON SPRING	1	
	10	TKEA16401A	CABINET TOP	1	
	11	TKEA16504T	CABINET BOTTOM	1	
	12	TKEA16601A	CABINET LEFT/RIGHT	2	
	13	TKGA5410	FRONT GLASS	1	
	14	TKKC5213	LED PANEL	1	
	15	TKKL5266-1	BLANK PLATE	1	
	16	TKKL5370	EYE BOLT COVER	13	
	17	TKKX0015	HEXAGONAL WRENCH	1	
	18	TKPA60301	REMOCON RECEIVE PANEL	1	
	19	TKUX11501	REAR COVER (CENTER/LEFT/TOP)	1	
	20	TMKA580	CABINET FELT (LEFT/RIGHT)	2	
	21	TMKA581	CABINET FELT (TOP/BOTTOM)	4	
	22	TMKA629	CABINET FELT (CORNER)	4	
	23	TMKG405	SPONGE (FAN)	16	
	24	TMKG469-1	SPONGE (FAN)	3	
	25	TMKG732	SPONGE (LEFT/RIGHT)	2	
	26	TMKG733	SPONGE (UPPER/BOTTOM)	4	
		TMM14490	CLAMPER	31	
		TMM16473-1	CLAMPER	16	
		TMM17499	CLAMPER	1	
		TMM6428-1	CLAMPER	3	
		TMM6463-1	CLAMPER	7	
		TMM6496-1	CLAMPER	2	
		TMM7464-2	CLAMPER	2	
		TMM7468-1	CLAMPER	5	
		TMME047	CLAMPER	5	
		TMME185	CLAMPER	4	
		TMME190	CLAMPER	3	
	27	TMME203	CLAMPER	2	
	28	TMME226	AC CORD CLAMPER	1	
		TMME228	CLAMPER	4	

Model No. : TH-103PF10WK/TK/RK Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		TMME287	CLAMPER	4	
		TMME292	CLAMPER	1	
	130	TMMX158	COVER (EDGE GAURD)	4	
	29	TMMJ068	RUBBER (FAN)	38	
	30	TMWC016	POWER BUTTON BRACKET	1	
	250	TMXX033	CORE HOLDER	2	
	31	TMXX035	AC CORD CLAMPER A	1	
	32	TMMX169	AC CORD CLAMPER B	1	TK
	33	TPCC04501	CARTON BOX BOTTOM	1	
	34	TPCC04601	CARTON BOX TOP	1	
	35	TPCC28802	CARTON SIDE A	1	WK
	35	TPCC28803	CARTON SIDE A	1	TK
	35	TPCC28805	CARTON SIDE A	1	RK
	36	TPCC28902	CARTON SIDE B	1	WK
	36	TPCC28903	CARTON SIDE B	1	TK
	36	TPCC28905	CARTON SIDE B	1	RK
	37	TPDA1038	CUSHION (CENTER)	4	
	38	TPDA1416	TOP CUSHION	2	
	39	TPDA1417-1	BOTTOM CUSHION LEFT	1	
	40	TPDA1418-1	BOTTOM CUSHION RIGHT	1	
	41	TPDA1419	CUSHION CENTER	2	
	42	TPDF1746	ACCESSORIES BOX	1	
	43	TPDX0007	JOINT	4	
	44	TPDX0027	BOTTOM SKID	1	
	45	TPDX0041	BAND	2	
	46	TPEH323	PROTECTION BAG	1	
	47	TPEH324	FRONT PROTECTION COVER	2	
	48	TQBC2235	INSTRUCTION BOOK (ENGLISH)	1	WK
	48	TQBC2246	INSTRUCTION BOOK (ARABIC)	1	WK
	48	TQBC2238	INSTRUCTION BOOK (TAIWAN)	1	TK
	48	TQBC2274	INSTRUCTION BOOK (ENGLISH)	1	RK
	48	TQBC2275	INSTRUCTION BOOK (RUSSIAN)	1	RK
	48	TQBC2276	INSTRUCTION BOOK (UKRAINE)	1	RK
	49	TQEF035	POLY BAG	1	
	50	TSXL518	CABLE (C11-C21/C23-C32/C31-C41/C42-C53/C51-C61/C71-C81/C83-C93/C91-CX1/CX2-CY3/CY1-CZ1)	10	
	51	TSXL568	CABLE (D31-CD1)	1	
	52	TSXL569	CABLE (C20-CD2)	1	
	53	TSXL570	CABLE (D32-CD1)	1	
	54	TSXL571	CABLE (C40-CD2)	2	
	55	TSXL572	CABLE (D33-CD1)	1	
	56	TSXL574	CABLE (D34-CD1)	1	
	57	TSXL575	CABLE (C80-CD2)	1	

Model No. : TH-103PF10WK/TK/RK Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
	58	TSXL576	CABLE(D35-CD1)	1	
	59	TSXL577	CABLE(C90-CD2)	1	
	60	TSXL578	CABLE(D36-CD1)	1	
	61	TSXL579	CABLE(CY0-CD2)	1	
	62	TSXL584	CABLE(DN6-DS6)	1	
	63	TSXL585	CABLE(DN1-DS1)	1	
	64	TTUA1515-1	REAR COVER(SIDE/LEFT)	1	
	65	TTUA1518	REAR COVER(CENTER/LEFT/BOTTOM)	1	
	66	TTUA1520	REAR COVER(CENTER/RIGHT/BOTTOM)	1	
	67	TTUA1747-1	REAR COVER(SIDE/RIGHT)	1	WK
	67	TTUA1749-1	REAR COVER(SIDE/RIGHT)	1	TK
	67	TTUA1824	REAR COVER(SIDE/RIGHT)	1	RK
	68	TTUA1748	REAR COVER(CENTER/RIGHT/TOP)	1	
	69	TUWC056	SIDE POWER COVER	1	
	70	TUXJ350	ESC (LEFT/TOP RIGHT/BOTTOM)	2	
	71	TUXJ351	ESC (LEFT/TOP RIGHT/BOTTOM)	2	
	72	TUXJ370	ESC (RIGHT/TOP LEFT/BOTTOM)	2	
	73	TUXJ371	ESC (RIGHT/TOP LEFT/BOTTOM)	2	
	74	TUXK056	STAND HOOK	4	
	75	TXAJS01YLTJ	INLET ASSY	1	
	202	J0KD00000096	FERRITE CORE	6	
		UR76EC2803A	BATTERY COVER	1	
		THEA068N	SCREW	4	
	76	THEA154J	M16 BOLT	4	
		THEC098J	SCREW	18	
		THEL0239	SCREW	12	
		THEL027N	SCREW	12	
		THEL037N	SCREW	1	
		THEL0429	SCREW	11	
		THTA0419	SCREW	2	
		THTD011J	SCREW	4	
		THTD013N	SCREW	22	
		THTF011N	SCREW	99	
		XTV3+10JFJ	SCREW	3	
		XTV3+8JFJK	SCREW	1	
		XTW3+8TFJ	SCREW	2	
	77	XVN16FJ	EYE BOLT	3	
	78	XWB16BVJ	M16 SPRING WASHER	4	
		XYN3+F10FJ	SCREW	9	
		XYN3+F8FJ	SCREW	35	
		XYN3+J12FJ	SCREW	99	
		XYN3+J8FJ	SCREW	16	
		XYN4+E8FJ	SCREW	1	

Model No. : TH-103PF10WK/TK/RK Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
		XYN4+F10FJ	SCREW	4	
		XYN4+F10FJK	SCREW	100	
		XYN4+F32FJ	SCREW	32	
		XYN4+J10FJ	SCREW	99	
		XYN5+F15FJ	SCREW	56	
		XYN5+F30FJK	SCREW	18	
		XYN8+F20FJK	SCREW	6	
	201	XZBT6506	POLY BAG FOR INST.BOOK	1	
	F900	K5D103BMA001	TIME LAG FUSE HIGH	1	
	F901	K5D103BMA001	TIME LAG FUSE HIGH	1	
	F903	K5D103BMA001	TIME LAG FUSE HIGH	1	
	F904	K5D103BMA001	TIME LAG FUSE HIGH	1	
	F1601	K5D103BMA001	TIME LAG FUSE HIGH	2	
	F1602	K5D103BMA001	TIME LAG FUSE HIGH	2	
	F1701	K5D502BNA007	AC FUSE	2	
	F1702	K5D502BNA007	AC FUSE	2	
	81	TNPA4018	CIRCUIT BOARD C1	1	
	82	TNPA4019	CIRCUIT BOARD C2	1	
	83	TNPA4020	CIRCUIT BOARD C3	1	
	84	TNPA4021	CIRCUIT BOARD C4	1	
	85	TNPA4022	CIRCUIT BOARD C5	1	
	86	TNPA4023	CIRCUIT BOARD C6	1	
	87	TNPA4024	CIRCUIT BOARD C7	1	
	88	TNPA4025	CIRCUIT BOARD C8	1	
	89	TNPA4026	CIRCUIT BOARD C9	1	
	90	TNPA4027	CIRCUIT BOARD CX	1	
	91	TNPA4028	CIRCUIT BOARD CY	1	
	92	TNPA4029	CIRCUIT BOARD CZ	1	
	93	TNPA4030	CIRCUIT BOARD SU	1	
	94	TNPA4031	CIRCUIT BOARD SM	1	
	95	TNPA4032	CIRCUIT BOARD SD	1	
	96	TNPA4033	CIRCUIT BOARD SC	1	
	97	TNPA4034	CIRCUIT BOARD SC2	1	
	98	TNPA4035	CIRCUIT BOARD SS	1	
	99	TNPA4036	CIRCUIT BOARD SS2	1	
	100	TNPA4037	CIRCUIT BOARD SS3	1	
	101	TNPA4039	CIRCUIT BOARD DR1	2	
	102	TNPA4040	CIRCUIT BOARD CD	6	
	103	TNPA4041	CIRCUIT BOARD PC	1	
	104	TNPA4055	CIRCUIT BOARD F	1	
	105	TNPA4058	CIRCUIT BOARD H5	1	
	106	TNPA4084	CIRCUIT BOARD S1	1	
	107	TNPA4085	CIRCUIT BOARD V1	1	

Model No. : TH-103PF10WK/TK/RK Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
	108	TNPA4086	CIRCUIT BOARD V2	1	
	109	TNPA4087	CIRCUIT BOARD V3	1	
	110	TNPA4100	CIRCUIT BOARD DR2	2	
	111	TNPA4103	CIRCUIT BOARD PB	1	
	112	TNPA4386	CIRCUIT BOARD DS	1	
	113	TXNHA10RBS	CIRCUIT BOARD HA	1	
	114	TXNHHH10XXT	CIRCUIT BOARD HDMI	1	
	115	TZTNP010XAT	CIRCUIT BOARD D	1	
	116	TZTNP020XAT	CIRCUIT BOARD DN	1	
	117	TZTNP030XAT	CIRCUIT BOARD HX	1	
	118	ZTXMM641MG1	CIRCUIT BOARD P (MULTI)	2	
	119	ZTXMM641MG2	CIRCUIT BOARD P (SUS)	2	
	RM001	PNA4701M05TV	REMOCON RECEIVER	1	